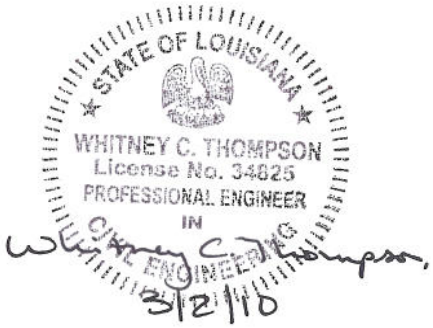
# CONSTRUCTION PACKAGE
# FOR

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM BAYOU DUPONT (BA-39) INCREMENT 2

## JEFFERSON & PLAQUEMINES PARISHES, LOUISIANA








## LOUISIANA
## DEPARTMENT OF NATURAL RESOURCES
## COASTAL ENGINEERING DIVISION

## FEBRUARY 23, 2010

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# SCHEDULE OF BID ITEMS

## MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM – BAYOU DUPONT (BA-39) INCREMENT 2

| ITEM No. | ITEM | UNIT | QUANTITY [1] | UNIT PRICE [2] | | EXTENDED PRICE [2] |
|---|---|---|---|---|---|---|
| | | | | USING WORDS | USING NUMBERS | USING NUMBERS |
| 8. | Mobilization and Demobilization[3] | Lump Sum | 1 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 9. | Surveys | Lump Sum | 1 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 10. | Earthen Containment Dikes | Linear Foot | 6,204 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 11. | Marsh Creation Fill | Cubic Yard | 390,055 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 12. | Settlement Plate | Each | 1 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 13. | Federal Reporting | Lump Sum | 1 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| 14. | Stand-by Time (if required) | Dredge Days | 1.6725 | _____ Dollars<br>_____ Cents | $ _____ . ____ | $ _____ . ____ |
| **TOTAL AMOUNT OF BASE BID:** _____ Dollars _____ Cents | | | | | | |

1. Where the quantity of Work with respect to any item is covered by a unit price, such quantities are estimated quantities to be used when comparing bids and the right is reserved b the Owner to increase/decrease such quantities as may be necessary to complete the Work and/or remain within the funding limits. In the event of material underruns/overruns, tl unit costs will be used to determine payment to the Contractor**.**
2. Items must be completed by the bidder.
3. Mobilization and Demobilization shall include all appropriate costs associated with constructing all features listed in the Specifications and/or shown in the Plans.

## PART I GENERAL PROVISIONS

### GP-1 DEFINITION OF TERMS

Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs and the titles of other documents or forms.

Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

1.1 Acceptance: A written approval from the Engineer which certifies that specific items of work in the Contract have been completed and/or obligations have been fulfilled by the Contractor.

1.2 Addenda: Those written or graphic documents which are issued prior to opening of Bids in accordance with the Bidding Requirements and clarify or change the bidding requirements or the proposed Contract Documents.

1.3 Agreement: The written and signed agreement between the Owner and Contractor specifying the Work to be performed and includes the Contract Documents, all addenda pertaining to the Bid, Notice of Award, Bonds, Plans, General Provisions, Special Provisions, and Technical Specifications.

1.4 Application of Payment: That form which is used by the Contractor to request partial and final payment and is deemed acceptable to the Owner. It shall be accompanied by any supporting documentation required by the Contract Documents.

1.5 A.S.T.M.: American Society for Testing and Materials.

1.6 Bid: An offer or proposal submitted on the prescribed form setting forth the prices for the Work.

1.7 Bidder: The person, association of persons, firm, or corporation submitting a proposal for the Work.

1.8 Bidding Requirements: The Advertisement or Invitation to Bid, Instruction to Bidders, Form of Bid Security, if any, and Bid Form with any supplements.

1.9 Change Order: A written order which is submitted to the Contractor, signed by the Owner, and authorizes an addition, deletion, or revision in the Work, or an adjustment in the contract price or the contract time issued after the effective date of the Agreement.

1.10 Claim: A written demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both or other relief with respect to the terms of the Contract.

1.11 Contract: The written Agreement between the Owner and the Contractor which defines the work to be completed and shall be understood to include the Plans, Specifications, Information for Bidders, Agreement, Advertisement For Bidders, Affidavit, Bid Form, Bid Bond, Contract Bond, Notice of Award, Notice to Proceed, and Change Orders, and Claims.

1.12 Contract Bond: The approved form of security furnished by the Contractor and Surety for the faithful performance of the Work, and the payment for all labor, materials, and/or obligations incurred by the Contractor in the prosecution thereof.

1.13 Contract Documents: The Agreement, all addenda which pertains to the Contract Documents, Bid Documents and specified Attachments accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award, Contractor's Bid when attached as an exhibit to the Agreement, the Bonds (Bid and Performance/Payment), General Provisions, Special Provisions, Technical Specifications, Plans, and all Field or Change Orders issued after the execution of the Agreement. Shop Drawings and other submittals by the Contractor are not Contract Documents.

1.14 Contract Price: The moneys payable by the Owner to the Contractor for the Work in accordance with the Contract Documents as stated in the Agreement.

1.15 Contract Time: The number of calendar days specified in the Agreement for completion of the Work, together with any extensions authorized through change orders.

1.16 Contractor: The person, association of persons, firm, or corporation entering into the duly awarded Contract.

1.17 Contracting Agency: The Louisiana Department of Natural Resources (LDNR) acting through the Division of Administration.

1.18 Day: When any period of time is referred to in the Contract Documents using days, it will be computed to exclude the first day and include the last day of such period. If the last day of any such period falls on a Saturday, Sunday, or a legal holiday, that day will be omitted from the computation. A calendar day is measured as twenty-four (24) hour period starting at midnight and ending the following midnight.

1.19 Design Report: A written report by the Engineer which provides the design methodology for the Work.

1.20 Effective Date of the Agreement: The date indicated in the Agreement on which it becomes effective.

1.21 Engineer: The Louisiana Department of Natural Resources, Coastal Engineering Division, or its designee.

1.22 Equipment: All machinery, implements, and power-tools, in conjunction with the necessary supplies for the operation, upkeep, maintenance, and all other tools and apparatuses necessary for the proper construction and acceptable completion of the Work.

1.23 Extension of Contract: Any extension of time for completion of the Work beyond the Contract Time which is granted by the Owner and recommended by the Engineer.

1.24 Federal Sponsor: The federal agency which has been tasked to manage the implementation of the project.

1.25 Field Order: A written order issued by the Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or Contract Time.

1.26 Inspector: An authorized representative of the Engineer who is responsible to inspect the Work and materials furnished by the Contractor.

1.27 Laboratory: The firm, company, or corporation which is used to test materials and is approved for use by the Engineer.

1.28 Laws and Regulations; Laws or Regulations: Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

1.29 Materials: Any substance used in the Work to build structures, but does not include material used in false work or other temporary structures not incorporated in the Work.

1.30 Milestone: A principal event specified in the Contract Documents relating to an intermediated completion date or time prior to the Contract Times.

1.31 Notice of Award: A written notice to the successful Bidder stating that the Bid has been accepted by the Owner and that the successful Bidder is required to execute the Contract and furnish the Contract Bond.

1.32 Notice to Proceed: The written notice to the Contractor by the Owner which provides the starting date for the Contract Time.

1.33 Owner: The Owner is the State of Louisiana (State) which acts through the Contracting Agency.

1.34 Plans: That part of the Contract Documents prepared or approved by the Engineer which graphically shows the scope, intent, and character of the Work to be completed by the Contractor.

1.35 Project Site: The location where the Work is to be performed as stated in the Agreement.

1.36 Right-of-way: That entire area reserved for constructing, maintaining, and protecting the proposed improvement, structures, and appurtenances of the Work.

1.37 Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portions of the Work will be judged.

1.38 Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work to be performed.

1.39 Specifications: That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the work to be performed and certain administrative details applicable thereto.

1.40 State: The State of Louisiana.

1.41 Structures: Bridges, plugs, weirs, bulkheads, berms, dams, levees, and other miscellaneous construction encountered during the Work and not otherwise classified herein.

1.42 Subcontractor: Any person, association of persons, firm, or corporation who contracts with the Contractor to perform any part of the project covered by the Contract.

1.43 Submittals: Certificates, samples, shop drawings, and all other project data which are submitted to the Engineer in order to verify that the correct products will be installed on the project.

1.44 Successful Bidder: The lowest responsible Bidder whom the Owner makes an award.

1.45 Special Provisions: That part of the Contract Documents which amends or supplements these General Provisions.

1.46 Surety: The corporate body, licensed to do business in Louisiana, bound with and for the Contractor's primary liability, and engages to be responsible for payment of all obligations pertaining to acceptable performance of the Work contracted.

1.47 Temporary Structures: Any non-permanent structure required while engaged in the prosecution of the Contract.

1.48 Written Amendment: A written statement modifying the Contract Documents which is signed by the Owner and the Contractor on or after the Effective Date of the Agreement.

1.49 Work: All work specified herein or indicated on the Plans.

1.50 Work Plan: A written plan by the Contractor that details how the Work will be provided including layout drawings, projected schedule (Initial Progress Schedule), and a list of labor hours, materials, and equipment.

## GP-2 BID REQUIREMENTS

The Contract and Bonds which govern the Work shall be performed in accordance with the Plans, Specifications, and the Louisiana Standard Specifications for Roads and Bridges, 2000 edition. The Bidder understands that all quantities for performing the Work have been estimated by the Engineer, and that the Bid shall be the sum of the quantities multiplied by their respective unit rates. The Contract shall be awarded by the Owner through a comparison of all bids. It is the responsibility of each Bidder before submitting a Bid to:

2.1. Examine the Bidding Documents including the Plans and Specifications and any Addenda or related data identified in the Bidding Documents;

2.2. Visit the Project Site to become familiar with the local conditions if they are believed to affect cost, progress, or the completion of the Work;

2.3. Become familiar and satisfied with all federal, state, and local Laws and Regulations that may affect cost, progress, or the completion of the Work;

2.4. Study and correlate all information known to the Bidder including observations obtained from Bidder's visits, if any, to the Project Site, with the Bidding Documents;

2.5. Submit a written notice to the Engineer within three (3) days regarding any conflicts, errors, ambiguities, or discrepancies discovered in the Bidding Documents and confirm that the written resolution thereof by the Engineer is acceptable to the Bidder; and

2.6. Determine that the Bidding Documents are generally sufficient to convey an understanding of all terms and conditions for completing the required Work.

The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of these Specifications. The Bidder shall comply with all other requirements specified in the Notice to Bidders.

## GP-3 AVAILABILITY OF PLANS AND SPECIFICATIONS

One (1) set of Plans and Specifications shall be furnished to each Bidder. Three (3) sets of the Plans and Specifications shall be furnished to the Contractor upon award of the Contract. Additional sets may be furnished to the Contractor upon request from the Louisiana Office of Coastal Protection and Restoration, 450 Laurel Street, 11th Floor, Baton Rouge, Louisiana 70801.

## GP-4 LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS, AND CODES

Bidders are required to become familiar and remain in compliance with all Federal, State, and local laws, ordinances, and regulations which may affect all employees and execution of the Work. The filing of a bid will be presumptive evidence that the Bidder has complied with this requirement. The Owner will not be responsible for any inaccurate interpretations or conclusions drawn by the Contractor from information and documentation provided by the Owner.

References to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, may not be in effect at the time of opening the Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents. No provision of any such standard, specification, manual, or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of the Owner or Engineer, or any of their Subcontractors, consultants, agents, or employees from those set forth in the Bid Documents. No such provision shall be effective to assign to the Owner or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of the Contractor's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

The Contractor shall indemnify the Owner and its representatives against any claim or liability arising from all violations of any laws, bylaws, ordinances, codes, regulations, orders, or decrees. The obligations imposed by these specifications are in addition to and are not to be construed in any way as a limitation of any rights available to the Engineer or Owner which are otherwise imposed by any laws or regulations or other provisions within the Contract Documents.

## GP-5 PRE-BID CONFERENCE AND SITE VISIT

A Pre-Bid conference will be held at the location and on the date provided in the Bid Solicitation. A site visit may also be held at the Project Site as specified in the Bid Solicitation or at the Pre-Bid conference. Bidders will be required to furnish their own transportation to the Project Site. Representatives of the Owner and Engineer will attend the Pre-Bid conference and site visit, if held, to discuss the Work. **Bidders are required to attend the Pre-Bid conference and site visit.** Failure to attend will result in a null or void Bid.

## GP-6 NOTICE OF AWARD

The Owner shall provide written notice to the Successful Bidder stating that the Owner will sign and deliver the Agreement upon compliance with the conditions enumerated therein and within the time specified.

## GP-7 NOTICE TO PROCEED AND CONTRACT TIME

The Contractor shall start the Work and begin the Contract Time on the dates provided in the Notice to Proceed. The Work shall be conducted using sufficient labor, materials, and equipment as necessary to ensure completion within the Contract Time. The Contract Time for completion of the Base Bid for the Work is provided in SP-3, unless an extension is granted to the Contract Time as specified in GP-44.

## GP-8 WORK PLAN

The Contractor shall develop a written Work Plan which accounts for all of the construction activities required by the Contract Documents. The Work Plan shall include a list of the individual construction tasks to be completed and the estimated dates for beginning and completing the tasks. It shall also include all other items which are applicable to completing the Work such as, but not limited to, the following:

8.1 Typical report form for the Bi-Weekly Progress Meeting;

8.2 Typical form for Daily Progress Report;

8.3 Hurricane and Severe Storm Plan;

8.4 Site-specific Health and Safety Plan;

8.5 The delivery method and source(s) of all construction materials (company or producer name, mailing and physical address, phone number, and name of contact person).

8.6 The personnel, material, subcontractors, fabricators, suppliers, types of equipment, and equipment staging areas the Contractor proposes to use for construction;

8.7 Shop drawings, test results, and sample submittals;

8.8 Survey layout and stakeout;

8.9 All supplemental items specified in SP-6.

The Work Plan shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in SP-3. The Engineer shall review the Work Plan and have the Contractor make any necessary revisions prior to acceptance of the plan. **No payment for mobilization will be made until the Work Plan has been accepted by the Engineer.**

## GP-9 PROGRESS SCHEDULE

The Contractor shall develop a written Progress Schedule which provides for an orderly progression of the Work, submittals, tests, and deliveries in order to complete the Work within the specified Milestones and Contract Time. All of the items listed in the Work Plan shall be integrated into the Progress Schedule. The format of the schedule shall be composed using Microsoft Project®, or any other software deemed acceptable by the Engineer. It shall be updated weekly by the Contractor, at a minimum. The Progress Schedule shall also include, but not be limited to the following:

9.1 All of the elements in the Work Plan, including updates;

9.2 A work order issued from Louisiana One Call ordering all their subscribers in the project area to mark their utilities;

9.3 A telephone log verifying that all property owners and utilities have been contacted. This log should list the time, date, and names of the personnel representing the property owners, utilities, and Contractor;

The following table defines the monthly anticipated adverse weather days that are expected to occur during the Contract Time and will constitute the baseline monthly weather time for evaluations. The schedule is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the regional geographic area.

| Monthly Anticipated Adverse Weather Calendar Days | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| 5 | 5 | 4 | 4 | 4 | 5 | 7 | 7 | 5 | 3 | 3 | 4 |

The Progress schedule must reflect these anticipated adverse weather delays on all weather dependent activities. Adverse weather days must prevent Work for fifty percent (50%) or more of the work day and delay work critical to the timely completion of the project. The number of actual adverse weather days shall be calculated chronologically from the first to the last day of each month.

The Progress Schedule shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in SP-3. The Engineer shall perform a review and have the Contractor make any necessary revisions prior to acceptance of the schedule. Acceptance will not impose responsibility on the Owner or Engineer for the sequencing, scheduling, or progression of the Work. The Contractor is fully responsible for progression of the Work in order to maintain the compliance with the Progress Schedule.

## GP-10 DAILY PROGRESS REPORTS

The Contractor shall record the following daily information on Daily Progress Reports:

10.1 Date and signature of the author of the report;

10.2 Dollar amount of all bid items that are fabricated, installed, backfilled, pumped, constructed, damaged, replaced, etc. The amount of material shall be expressed in the units stated in the bid;

10.3 Field notes of all surveys;

10.4 Notes on all inspections;

10.5 Details of Health and Safety meetings;

10.6 A brief description of any Change Orders, Field Orders, Claims, Clarifications, or Amendments;

10.7 Condition of all navigation aides (I.E., warning signs, lighted marker buoys) and any repairs performed on them;

10.8 Weather conditions (adverse weather day, wind speed and direction, temperature, wave height, precipitation, etc.);

10.9 The amount of time lost to severe weather or personnel injury, etc;

10.10 Notes regarding compliance with the Progress Schedule;

10.11 Visitor log (Instructions for format will be furnished by the Field Engineer).

The daily progress reports shall be submitted to the Engineer at the Bi-Weekly Progress Meetings specified in GP-13 in both hard copy and digital format (Adobe Acrobat® Format, or approved equal). The typical form for Daily Progress Reports shall be developed by the Contractor and incorporated into the Work Plan.

## GP-11 HURRICANE AND SEVERE STORM PLAN

The Contractor shall develop and maintain a written Hurricane and Severe Storm Plan. The Plan shall include, but not be limited to, the following:

11.1 What type of actions will be taken before storm strikes at the Project Site. The plan should specify what weather conditions or wave heights will require shutdown of the Work and removal of equipment, personnel, etc.

11.2 Notes from continuous monitoring of NOAA marine weather broadcasts and other local commercial weather forecasts.

11.3 Equipment list with details on their ability to handle adverse weather and wave conditions.

11.4 List of safe harbors or ports and the distance and travel time required to transfer equipment from the Project Site.

11.5 Hard copies of any written approvals or operations schedules associated with the use of the safe harbors or ports.

11.6 Method of securing equipment at the safe harbors or ports.

11.7 List of tug boats and work boats and their respective length, horsepower, etc. which will adequately transfer the equipment to safe harbor or port under adverse weather conditions.

11.8 Methods which will be used to secure equipment left onsite during adverse weather conditions.

11.9 Evacuation or immediate reaction plans to be taken by personnel for sudden storm occurrences.

11.10 Operations procedures which will be used to secure critical dredging equipment such as spuds, swing wires, anchor wires, or tugs during adverse weather conditions.

11.11 Communications protocol with local law enforcement and fire and rescue agencies.

The Contractor shall incorporate the Hurricane and Severe Storm Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

## GP-12 HEALTH AND SAFETY PLAN AND INSPECTIONS

The Contractor shall develop and maintain a written Health and Safety Plan which allows the Work to be performed in compliance with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the safety of personnel or property. This includes maintaining compliance with the Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) and all applicable Health and Safety Provisions of the State of Louisiana.

The Contractor shall institute a daily inspection program to assure that the requirements of the Health and Safety Plan are being fulfilled. Inspections shall include the nature of deficiencies observed, corrective action taken or to be taken, location of inspection, date, and signature of the person responsible for its contents. The results of the inspections shall be recorded on Daily Progress Reports and kept at the Project Site during the Work.

The Contractor shall incorporate the Health and Safety Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

## GP-13 PROGRESS MEETINGS AND REPORTS

The Engineer shall schedule meetings to review the progress of the Work, coordinate future efforts, discuss compliance with the Progress Schedule and resolve miscellaneous problems. The Engineer or Inspector, Contractor, and all Subcontractors actively working at the Project Site shall attend each meeting. Representatives of suppliers, manufacturers, and other Subcontractors may also attend at the discretion of the Contractor. The Contractor shall record the details of each meeting in a Progress Report. The format of this report shall be developed by the Contractor, approved by the Engineer, and included in the Work Plan. The progress meetings and reports shall be scheduled according to SP-3.

## GP-14 PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference shall be held by the Contractor, Owner, Engineer, local stakeholders, and other appropriate personnel prior to starting construction on the date specified in SP-3. This conference shall serve to establish a mutual understanding of the Work to be performed, the elements of the Progress Schedule and Work Plan, expectations for bi-weekly progress meetings, the Plans and Specifications, processing Applications for Payment, and any other items of concern. If any subcontractors are not present, another pre-construction conference will be required.

## GP-15 CONTRACT INTENT

The Bid Documents are complementary; what is called for by one is as binding as if called for by all. Clarifications and interpretations or notifications of minor variations and deviations of the Contract Documents will be issued by Engineer as provided in these Specifications. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Bid Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided at no additional cost to the Owner.

## GP-16 ENGINEER AND AUTHORITY OF ENGINEER

The Engineer will be the designated representative of the Owner, the initial interpreter of the Contract Documents and the judge over acceptability of all the Work. Claims, disputes, and other matters relating to the acceptability of the Work, performance by the Contractor or the interpretation of the requirements of the Contract Documents must be submitted to the Engineer in writing. Upon written request from the Contractor, the Engineer shall issue written clarifications or interpretations which are consistent with the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on the Owner and the Contractor. Either the Owner or the Contractor may make a Claim if a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times.

The Engineer has the authority to suspend the Work in whole or in part due to failure of the Contractor to correct conditions unsafe for workmen or the general public, carry out provisions of the Contract, perform conformance work, or to carry out orders. The Engineer shall submit a written order to the Contractor for work which must be suspended or resumed. Nothing in this provision shall be construed as establishing responsibility on the part of the Engineer for safety which is the responsibility of the Contractor.

The Engineer or Inspector shall keep a daily record of weather and flood conditions and may suspend the Work as deemed necessary due to periods of unsuitable weather, conditions considered unsuitable for execution of the Work, or for any other condition or reason deemed to be in the public interest.

## GP-17 CONFORMITY WITH PLANS AND SPECIFICATIONS

All work and materials involved with the Work shall conform with the lines, grades, cross sections, dimensions, and other requirements shown on the Plans or indicated in these Specifications unless otherwise approved by the Engineer.

## GP-18 CLARIFICATIONS AND AMENDMENTS TO CONTRACT DOCUMENTS

The Contract Documents may be clarified or amended by the Engineer to account for additions, deletions, and revisions to the Work after the Effective Date of the Agreement. The clarifications and amendments shall be addressed by either a Change Order or a written clarification by the Engineer. The Contractor shall not proceed with the Work until the Change Order or clarification has been issued by the Engineer. The Contractor shall not be liable to the Owner or Engineer for failure to report any such discrepancy unless the Contractor had reasonable knowledge.

The Contractor may request a clarification or amendment for the following:

18.1 Any conflict, error, ambiguity, or discrepancy within the Contract Documents; or

18.2 Any conflict, error, ambiguity, or discrepancy between the Bid Documents and the provision of any Law or Regulation applicable to the performance of the Bid; or

18.3 Any standard, specification, manual, or code (whether or not specifically incorporated by reference in the Bid Documents); or

18.4 Instructions by a supplier.

The official form for a written clarification is provided in Appendix B. This form shall be filled out appropriately by the Contractor and submitted to the Engineer. The Engineer shall clarify the issue in writing on either the clarification form or a Change Order and submit it to the Contractor.

## GP-19 SUBCONTRACTS

The Contractor shall provide the names of all Subcontractors to the Engineer in writing before awarding any Subcontracts. The Contractor shall be responsible for the coordination of the trades and Subcontractors engaged in the Work. The Contractor is fully responsible to the Owner for the acts and omissions of all the Subcontractors. The Owner and Engineer will not settle any differences between the Contractor and Subcontractors or between Subcontractors. The Contractor shall have appropriate provisions in all Subcontracts to bind Subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents, as applicable to the Work of Subcontractors. The provisions should provide the Contractor the same power regarding termination of Subcontracts that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

## GP-20 WORKERS, METHODS, AND EQUIPMENT

The Contractor shall provide competent, qualified, and trained personnel to perform the Work. The Contractor shall not employ any person found objectionable by the Engineer. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer, does not perform the Work in a proper, skillful, and orderly manner shall be immediately removed upon receiving a written order by the Engineer. The Engineer may also suspend the Work until the Contractor removes the employee or provides a suitable replacement. Such an employee shall not be re-employed in any portion of the Work without written approval from the Engineer.

The on-site superintendent for the Contractor shall be competent, English-speaking, and qualified to receive orders, supervise, and coordinate all Work for the Contractor and any Subcontractors. The qualifications of the superintendent must be established and approved by the Engineer prior to commencement of the Work. The superintendent shall be furnished by the Contractor regardless of how much Work may be sublet. In the performance of the Work under this Contract, the Contractor shall conduct operations to avoid interference with any other Contractors.

All equipment, products, and material incorporated into the Work shall be as specified, or if not specified, shall be new, of good quality, and protected, assembled, used, connected, applied, cleaned, and conditioned in accordance with the manufacturer's instructions, except as otherwise may be provided in the Bid Documents. All equipment shall be of sufficient size and mechanical condition to meet the requirements of the Work and produce a satisfactory quality of work. Equipment shall not damage adjacent property throughout the performance of the Work. The Plant and Equipment Schedule should be completed by the Contractor.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures used to complete the Work in conformance with the Contract Documents.

The Contractor shall obtain permission from the Engineer if a method or type of equipment other than specified in the Contract is desired. The request shall be in writing and shall include a full description of the methods, equipment proposed, and reasons for the modification. A proposed item of material or equipment may be considered by the Engineer to be functionally equal to an item specified in the Contract if:

20.1 It is at least equal in quality, durability, appearance, strength, and design characteristics;

20.2 There is no increase in any cost including capital, installation, or operating to the Owner;

20.3 The proposed item will conform substantially, even with deviations, to the detailed requirements of the item named in the Bid Documents.

If, after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue use of the substituted methods or equipment and shall complete the Work with the specified methods and equipment. The Contractor shall remove the deficient Work and replace it with Work of specified quality or take other corrective action as directed. No change will be made in basis of payment for construction items involved or in Contract Time as a result of authorizing a change in methods or equipment.

## GP-21 ACCIDENT PREVENTION, INVESTIGATIONS, AND REPORTING

The Contractor shall be responsible to develop and maintain all safeguards and safety precautions necessary to prevent damage, injury, or loss throughout the performance of the Work. All accidents at the Project Site shall be investigated by the immediate supervisor of employee(s) involved and reported to the Engineer or Inspector within one (1) working day. A complete and accurate written report of the accident including estimated lost time days shall be submitted to the Engineer within four (4) calendar days. A follow-up report shall be submitted to the Engineer if the estimated lost time days differ from the actual lost time days.

## GP-22 PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC.

The Contractor shall comply with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the preservation and protection of public and private property. The Contractor shall install and maintain suitable safeguards and safety precautions during the Work as necessary to prevent damage, injury, or loss to property. This responsibility shall remain with the Contractor until the Work has been completed and accepted. Any damage, injury, or loss to property which is caused by the Contractor or Subcontractors shall be repaired or replaced at the expense of the Contractor.

The Contractor shall protect all land monuments, State and United States bench marks, geodetic and geological survey monuments, and property markers from disturbance or damage until an authorized agent has witnessed or otherwise referenced their location. The Contractor shall also provide protection for all public and private property including trees, utilities, pipes, conduits, structures, etc. These items shall not be removed unless directed by the Engineer.

The Contractor shall be responsible to completely repair all damages to public or private property due to any act, omission, neglect, or misconduct in the execution of the Work unless it is due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, public enemies, or governmental authorities. The damage must be repaired at the expense of the Contractor before final acceptance of the Work can be granted by the Engineer. If the Contractor fails to repair the damage within forty-eight (48) hours, the Owner may independently proceed with the repairs at the expense of the Contractor by deducting the cost from the Contract. If the Contractor cannot provide for the cost of repairs, the Surety of the Contractor shall be held until all damages, suits, or claims have been settled.

## GP-23 PROTECTION OF THE WORK, MATERIALS, AND EQUIPMENT

It shall be the responsibility of the Contractor to protect the Work, materials, and equipment from damages or delays due to inflows, tidal rise, and storm water runoff which may occur at the Project Site. The Owner shall not be held liable or responsible for these types of delays or damages.

## GP-24 LAND RIGHTS

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from public and private landowners in order to perform the Work. A land rights memorandum which lists all known responsible contacts and required stipulations is provided in Appendix C. The Contractor is responsible to notify all of the contacts and abide by stipulations listed in that memorandum.

## GP-25 UTILITIES

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from public and private utilities in order to perform the Work. The utilities include, but are not limited to telephone, telegraph, power poles or lines, water or fire hydrants, water or gas mains and pipelines, sewers, conduits, and other accessories or appurtenances of a similar nature which are fixed or controlled by a city, public utility company or corporation.

The Contractor shall conduct the Work in such a manner as to cooperate and minimize inconveniences with utilities. Prior to commencement of the Work, the Contractor is responsible to notify all of the utilities and abide by stipulations required by the utility company(s). The Contractor shall also call "Louisiana One Call" at 1-800-272-3020 a minimum of 5 working days prior to construction to locate existing utilities at the Project Site.

Any damage to utilities that is caused by the Contractor within the Project Site shall be repaired at the expense of the Contractor. The Owner will not be responsible for any delay or damage incurred by the Contractor due to working around or joining the Work to utilities left in place or for making adjustments.

Any unidentified pipes or structures which may be discovered within the limits of the Project Site shall not be disturbed and shall be reported to the Engineer as soon as possible. Construction or excavation shall not be performed around unidentified utilities without prior approval from the Engineer.

## GP-26 PERMITS

Federal and State permits that are required to perform the Work, such as the Department of the Army Permit, Coastal Use Permit, LDEQ Clean Water Permit, LDWF Fill Material License, LADOTD highway crossing permit, and Rio Grand Pacific Corporation railroad crossing permit, have been secured by the Owner. Permit conditions (MVN-2008-0345-EFF) affecting the construction processes have been included in these Specifications. Copies of these permits will be provided to the Contractor at the pre-construction conference. The Contractor shall obtain a Right of Entry Agreement from the Rio Grand Pacific Corporation, parent company of the New Orleans and Gulf Coast Railway, which is required to perform the Work, prior to construction. A copy of the agreement is included in Appendix H. These permits will not relieve the responsibility of the Contractor from obtaining any additional permits which may be needed to complete the Work. Copies of any special permits that are obtained by the Contractor must be submitted to the Owner. The Contractor shall conform to the requirements therein and display copies of the permits in a public setting at the Project Site at all times.

## GP-27 PROJECT SITE CLEAN-UP

The Contractor shall keep the Project Site free from accumulations of waste material or trash at all times. All trash and waste materials shall be removed by the Contractor and disposed off-site in an approved waste disposal facility. In addition, all equipment, tools, and non-conforming work shall also be removed prior to the Work being accepted. No materials shall be placed outside of the Project Site.

## GP-28 OWNER INSPECTION

The Owner, Inspector, and Federal Sponsor shall have the right to perform reasonable inspections and testing of the Work at the Project Site. Access shall be granted to the entire Project Site including all materials intended for use in the Work. The Contractor shall allow reasonable time for these inspections and tests to be performed. The inspections shall not relieve the Contractor from any obligation in accordance with the requirements of the Contract.

The Owner shall notify the Contractor prior to all tests, inspections, and approvals of the Work which are to be conducted at the Project Site. The Owner shall also provide the Contractor with the written results of all inspections and tests. Inspections, tests, or Payments made by the Owner shall not constitute acceptance of non-conforming Work of prejudice the Owner's rights under the Contract.

## GP-29 DUTIES OF INSPECTOR

An Inspector shall be assigned by the Engineer to the Project Site to observe the Contractor and monitor the progress and manner in which the Work is being performed. The Inspector will also report to the Engineer and Contractor whenever materials or Work fail to comply with the Contract. The Inspector is authorized to reject any materials or suspend work which does not comply with the Contract until the issue is resolved by the Engineer.

However, the Inspector is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, or to approve or accept any portion of the Work, or to issue instructions contrary to the Plans and Specifications. The Inspector shall not manage or perform duties for the Contractor.

## GP-30 CONSTRUCTION STAKES, LINES, AND GRADES

The Engineer shall direct the Contractor to all control points necessary for setting stakes and establishing lines and grades as shown on the Plans. The Contractor shall be responsible for laying out all of the Work. All layouts shall be witnessed and verified by the Engineer or Inspector prior to beginning the Work. The Contractor shall be responsible for proper execution of the Work according to the layouts after receiving verification from the Engineer.

The Contractor shall be responsible for furnishing and maintaining stakes such that the Work can be verified for acceptance. The Engineer may suspend the Work at any time if it can not be adequately verified due to the number, quality, or condition of the stakes.

## GP-31 CONTRACTOR'S RESPONSIBILITY FOR WORK

The Contractor shall execute all items covered by the Contract, and shall furnish, unless otherwise definitely provided in the Contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to complete the Work. The Contractor shall pay constant attention to the progress of the Work and shall cooperate with the Engineer in every way possible. The Contractor shall maintain a complete copy of the Contract at all times, including the Plans, Specifications, and any authorized modifications.

## GP-32 CONTROL OF SILTATION AND WATER POLLUTION

The Contractor shall comply with all applicable Federal and State regulations and statutes relating to the prevention and abatement of pollution in the performance of the Contract. The Contractor shall conduct the Work in a manner that will not cause damaging concentrations of silt or pollution to water. The Contractor shall prevent fuels, oils, bituminous materials, chemicals, sewage, or other harmful contaminants from entering the land or water.

## GP-33 SANITARY PROVISION

The Contractor shall provide and maintain sanitary accommodations for use by all employees and Subcontractors. Facilities shall comply with the requirements of the Louisiana State Board of Health and Hospitals and other authorities having jurisdiction. Committing public nuisance on the Project Site is prohibited.

## GP-34 PAYMENT OF TAXES

The Contractor shall be responsible for all taxes and duties that maybe levied under existing State, Federal, and local laws during the completion of the Work. The Owner will presume that the amount of such taxes is included in the unit prices bid by the Contractor and will not provide additional reimbursement.

## GP-35 RADIO AND TELEPHONES

The Contractor shall furnish and maintain radio and telephone equipment throughout the Contract Time which will allow communication between the Contractor and the Engineer or Inspector.

## GP-36 NAVIGATION

All marine vessels shall comply with the following Federal Laws and Regulations:

36.1 The International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608); and

36.2 The Inland Navigation Rules Act of 1980 (Public Law 96-591, 94 Stat. 3415, 33 U.S.C. 2001-2038).

These rules can be found on the Internet at:
http://www.navcen.uscg.gov/mwv/navrules/navrules.htm . All marine vessels shall display the lights and day shapes required by Part C- Lights and Shapes of the Inland Navigation Rules. The location, type, color, and size of the lights and day shape shall be in accordance with Annex I - Positioning and Technical Details of Lights and Shapes. Any vessel engaged in dredging is considered a "Vessel restricted in her ability to maneuver" and shall display all the lights and shapes required in Rule 27, "Vessel Not Under Control."

## GP-37 OBSTRUCTION TO NAVIGATION

The Contractor shall minimize all obstructions to navigation in compliance with pertinent U. S. Coast Guard regulations while conducting the Work. The Contractor shall promptly move any floating equipment or marine vessels which obstruct safe passage of other marine vessels. Upon completion of the Work, the Contractor shall remove all marine vessels and other floating equipment such as temporary ranges, buoys, piles, and other marks or objects that are not permanent features of the Work.

## GP-38 MARINE VESSELS AND MARINE ACTIVITIES

All marine vessels operated by the Contractor shall posses a valid United State Coast Guard (USCG) inspection certificate and current American Bureau of Shipping (ABS) Classification. All officers and crew shall possess valid USCG licenses as required by USCG regulations. These certificates, classifications, and licenses shall be posted in a public area on board each vessel.

All marine vessels not subject to USCG certification or ABS Classification shall be inspected annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS). All inspections shall be documented using an appropriate report format. At a minimum, the inspections shall evaluate the structural integrity of the vessel and comply with the National Fire Protection Association Code No. 302- Pleasure and Commercial Motor Craft. The most recent inspection report shall be posted in a public area on board each vessel.

## GP-39 RECORD KEEPING

The Contractor shall maintain orderly records of the Progress Schedule, Daily Progress Reports, Progress Meetings, correspondence, submittals, reproductions of original Contract Documents, Change Orders, Field Orders, certificates, additional drawings issued subsequent to the executed Contract, clarifications and interpretations of the Contract Documents by the Engineer, and other related documents at the Project Site until all of the Work is accepted by the Engineer.

## GP-40 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be certified by an authorized agent of the supplying company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date of shipment. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the testing date. The Contractor shall also certify that all materials and test reports conform to the requirements of the Contract. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if the material is tested and determined to be in nonconformance.

## GP-41 SUBMITTALS

The Contractor shall review all Submittals for compliance with the requirements of the Contract prior to delivery to the Engineer. Each Submittal shall contain a signed statement by the Contractor that it complies with the Contract requirements with any exceptions explicitly listed. The Contractor shall comply with these requirements for Submittals from Subcontractors, manufacturers, and suppliers.

All Submittals shall include sufficient data to demonstrate that the requirements of the Contract are met or exceeded. All submittals shall be legible and marked with the project title and clearly identify the item submitted. Each submittal package shall include an itemized list of the items submitted.

All Submittals shall be reviewed within fourteen (14) days after being received by the Engineer. The Contractor shall allow the Engineer sufficient time for review, corrections, and resubmission of all Submittals prior to beginning the associated Work. The Contract Time shall not be extended based on incorrect or incomplete Submittals.

## GP-42 MODIFICATIONS TO THE WORK

The Engineer may authorize modifications, additions, or deductions to the Work using Change Orders, Field Orders, or Written Amendments. The requirements and stipulations of these documents shall be binding on the Owner and Contractor throughout the remainder of the Contract.

## GP-43 INCREASE IN CONTRACT PRICE

The Contractor is expected to complete the Work according to the Contract Price specified in the Bidding Documents. Under certain circumstances, the Contractor may request for a legitimate increase to the Contract Price using a Claim. The Claims shall justify the request for an increase in Contract Price by providing supporting data and calculations. The Claim must be submitted to the Engineer in writing within fourteen (14) days after the event occurs which necessitates the increase in Contract Price. If an increase in Contract Price involves an extension of Contract Time, both claims shall be submitted together. The Engineer reserves the right to accept, deny, or negotiate the Claim. If the Claim is accepted, the Engineer shall issue a Change Order. Where a change order is negotiated, the Contractor shall fully document and itemize costs, including material quantities, material costs, taxes, insurance, employee benefits, other related costs, profit, and overhead. The requirements and stipulations of the Change Order shall be binding on the Owner and Contractor throughout the remainder of the Contract.

The increase in Contract Price shall be determined by the following:

43.1 By application of the unit prices in the Contract to the quantities of the items involved; or

43.2 By mutual acceptance between the Owner and Contractor of a lump sum.

If the Contractor is prevented from completing the Work according to the Contract Price due to the Owner, the Contractor may be entitled to any reasonable and necessary addition of cost as determined by the Engineer. Neither the Owner nor the Contractor shall be entitled to any damages arising from events or occurrences which are beyond their control, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, acts of war, and other like matters. The provisions of this section exclude recovery for damages caused by the Contractor and compensation for additional professional services by either party.

## GP-44 EXTENSION OF CONTRACT TIME

The Contractor is expected to complete the Work within the Contract Time specified in the Bidding Documents. A legitimate increase of the Contract time may be requested by the Contractor throughout the course of the Work. This Claim must be submitted to the Engineer in writing within fourteen (14) days of the event which caused the time delay to the Contractor. If an extension of Contract Time involves an increase in Contract Price, both claims shall be submitted together. The Contractor shall justify the increase of the Contract Time in the Claim using supporting data and calculations. The Engineer may deny the claim if there is insufficient information to make a determination. If the Claim is approved, the Engineer shall issue a Change Order within thirty (30) days of the Claim. The Contract Time shall be increased on a basis that is commensurate with the amount of additional or remaining Work. For example, the Contract Time can be increased where the number of actual adverse weather days exceeds the number of days estimated in the Contract.

## GP-45 DEFAULT AND TERMINATION OF CONTRACT

The Owner shall submit a written notice to the Contractor and Surety which justifies placement of the Contractor in default if:

45.1 The Work is not begun within the time specified in the Notice to Proceed; or

45.2 The Work is performed with insufficient workmen, equipment, or materials to assure prompt completion; or

45.3 The Contractor performs unsuitable, neglected or rejected work, refuses to remove materials; or

45.4 The Work is discontinued; or

45.5 The Work is not completed within the Contract Time or time extension; or

45.6 Work is not resumed within a reasonable time after receiving a notice to continue; or

45.7 The Contractor becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or

45.8 The Contractor allows any final judgment to stand unsatisfied for a period of ten (10) days; or

45.9 The Contractor makes an assignment for the benefit of creditors; or

45.10 The Work is not performed in an acceptable manner.

If the Contractor or Surety does not remedy all conditions cited in the written notice within ten (10) days after receiving such a notice, the Contractor will be in default and the Owner shall remove the Contractor from the Work. If the Contractor is placed into default, the Owner may obtain the necessary labor, materials, and equipment or enter into a new Agreement and Contract in order to complete the Work. All costs incurred by the Owner for completing the Work under the new Contract will be deducted from the payment due the Contractor. If the expense exceeds the sum payable under the Contract, the Contractor and Surety shall be liable to pay the Owner the difference.

## GP-46 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to temporarily suspend the Work in whole or in part. A Field Order shall be issued to the Contractor for any of the Work that is suspended for periods exceeding one (1) calendar day. The Field Order shall include the specific reasons and details for the suspension. The Contract Time shall not be extended if the Work is suspended due to failure by the Contractor to comply with a Field Order or with the Plans and Specifications. If the Work is suspended in the interest of the Owner, the Contractor shall make due allowances for the lost time.

## GP-47 NON-CONFORMING AND UNAUTHORIZED WORK

Work not conforming to the Plans, Specifications, Field Orders, or Change Orders shall not be accepted for payment. Unacceptable or unauthorized work shall be removed and replaced in an acceptable manner at the expense of the Contractor in order to obtain final acceptance of the Work.

## GP-48 CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

The Contractor may terminate the Contract or Work and recover payment from the Owner for labor and materials if the Work is stopped through no act or fault of the Contractor for more than three (3) months. For example, such an occurrence could be caused by a court order or other public authority. In any case, the Contractor shall submit a written notice to the Engineer at the beginning of the occurrence, and a written Claim to the Owner at the end of the occurrence.

## GP-49 BREACH OF CONTRACT

The Owner shall submit a written Claim to the Contractor regarding any breach of the Contract. The Contractor must provide a written response to the Owner regarding the breach of Contract within ten (10) days after the Claim. This response must provide either an admission to the Claim or a detailed denial based on relevant data and calculations. The failure of the Contractor to provide a proper response within ten (10) days shall result in justification of the Claim by default.

## GP-50 NO WAIVER OF LEGAL RIGHTS

The Owner shall not be prevented from recovering costs from the Contractor, Surety, or both due to failure of the Contractor to fulfill all of the obligations under the Contract. If a waiver is provided to the Contractor for a breach of Contract by the Owner, it shall not apply to any other breach of Contract. Final acceptance of the Work shall not prevent the Owner from correcting any measurement, estimate, or certificate. The Contractor shall be liable to the Owner without prejudice to the terms of the Contract or any warranty for latent defects, fraud, or gross negligence.

## GP-51 LIABILITY FOR DAMAGES AND INJURIES

To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, Engineer, and their affiliates from claims, costs, losses, demands, and judgments (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by negligence of the Contractor or the Contractor's affiliates under this Contract, provided that it results in bodily injury, sickness, disease, or death, or in injury to or destruction of tangible property including the loss of use resulting there from.

The indemnification obligations of the Contractor shall not extend to the liability of the Owner, Engineer, and their affiliates arising out of the preparation or approval of the Plans, Specifications, maps, opinions, reports, surveys, or Change Orders, or for providing directions or instructions which are the primary cause of the injury or damage.

Should the Owner or Contractor suffer from any injury or damage due to an error, omission, or act of the other party or their legally liable affiliates, a written Claim shall be submitted to the other party within ten (10) days. The Claim shall provide all details regarding the injury or damage, the results of any investigations, and the action to be taken to prevent any reoccurrence.

## GP-52 LIABILITY FOR LOSSES BY ACTS OF THE GOVERNMENT

The Owner shall not be liable for any loss or damage suffered by the Contractor arising out of a cessation of Work under this Contract due to any act or order of any local, state, or federal government agency. If this cessation occurs, the Contractor may request an extension of the Contract Time according to the provisions in GP-44.

## GP-53 FINAL INSPECTION AND ACCEPTANCE

The Engineer, Owner, and Contractor shall perform a final inspection after receiving written notice from the Contractor that all of the Work is complete. If the Work is determined to be unsatisfactory, the Engineer shall notify the Contractor in writing of the deficiencies and recommended corrective actions.

Unfulfilled work or damages caused by the negligence of the Contractor or Subcontractors shall be repaired or corrected at the expense of the Contractor. All other damages to the Work which received previous acceptance by the Engineer shall be repaired at the expense of the Owner. Upon completion of the repairs or corrections, the Engineer, Owner, and Contractor shall perform another inspection. The Engineer shall submit a written notice of acceptance to the Owner after the Work has been determined to be satisfactorily completed according to the Contract.

## GP-54 AS-BUILT DRAWINGS

The Contractor shall submit all originals and copies of the As-Built Drawings to the Engineer for review and acceptance in accordance with SP-3 and SP-4. The As-Built Drawings shall provide complete data for quantities, dimensions, specified performance and design criteria, and similar items which clearly represent the services, materials, and equipment the Contractor has provided. All revision sheets shall be clearly stamped with the words “As-Built”.

## GP-55 COMPLETION OF CONTRACT

Completion of the Contract requires all of the Work to be complete, inspected by the Engineer, accepted by the Owner as recommended by the Engineer, and after, final payment is made. After the Contract is complete, the Contractor will then be released from further obligation except as set forth in the Contract Bond and Contractor’s Guarantee.

## GP-56 CONTRACTOR'S GUARANTEE

The Contractor is obligated to provide a written guarantee to the Owner that all of the Work conforms to the Contract Documents. The Work shall be guaranteed to survive for a minimum period of 1 year after final acceptance, unless otherwise specified in the Technical Specifications.

56.1 The guarantee shall include:

56.1.1 A written warranty by the manufacturer for each piece of installed project equipment or apparatus furnished under the Contract.

56.1.2 Any necessary repair of replacement of the warranted equipment during the guarantee period at no cost to the Owner.

56.1.3 Satisfactory operation of installed equipment including, but not limited to, any mechanical and electrical systems furnished and constructed under the Contract during the guarantee period. The Contractor shall repair all equipment which fails due to defective materials or faulty workmanship during the guarantee period. The Contractor shall also be liable for all other ancillary expenses incurred by the Owner due to the failure.

56.2 The guarantee shall exclude defects or damage caused by:

56.2.1 Abuse or improper modification, maintenance, or operation by anyone other than the Contractor; or

56.2.2 Wear and tear under normal usage.

56.3 This obligation by the Contractor shall be absolute. The following actions will not constitute acceptance of non-conformance Work or release the Contractor from obligation to furnish the Work in accordance with the Contract Documents:

56.3.1 Observations by the Owner or Engineer; or

56.3.2 Recommendations by the Engineer or payment by the Owner; or

56.3.3 Use of the Work by the Owner; or

56.3.4 Issuance of a notice of acceptance by the Owner pursuant to the provisions of GP-47, or failure to do so; or

56.3.5 Any inspection, test, or approval by others; or

56.3.6 Any correction to non-conforming work by the Owner.

## PART II SPECIAL PROVISIONS

### SP-1 LOCATION OF WORK

The Work site is located in Jefferson and Plaquemines Parishes, near the Conoco-Phillips refinery in Alliance and northwest of the town of Myrtle Grove, LA. The borrow area is accessible via the Mississippi River. The marsh creation area is accessible via Louisiana Highway 23 (LA 23) and West Ravenna Road and by boat. See Plan Sheet 4 for additional details.

### SP-2 WORK TO BE DONE

The Contractor shall provide all labor, materials, and equipment necessary to perform the Work. The Work shall include, but not be limited to, mobilization and demobilization at or to the Project Site, dredging and placement of fill material, installation of temporary dredge slurry pipeline crossings, and installation of settlement plates. The Work shall be performed in accordance with these Specifications and in conformity to lines, grades, and elevations shown on the Plans or as directed by Engineer. Quantity calculations, layouts, shop drawings, and construction sequencing of these items shall be provided in the Work Plan. The major tasks associated with the Work are described as follows:

2.1 **Surveying** – Prior to construction, the survey transects established in the design survey shall be resurveyed for bathymetry and topography. Settlement plate shall be surveyed during installation and throughout construction in the marsh fill area. Prior to construction, the Contractor shall perform a magnetometer survey on the Mississippi River borrow area, containment dike borrow areas, and any areas to be excavated along the pipeline corridor to verify pipeline or obstruction locations and ensure no unknown pipelines exist within the project area. The magnetometer survey shall be submitted to the Engineer prior to excavation of material. During construction, marsh fill area surveys for partial payment and quality control shall be performed as deemed necessary by the Contractor and as requested by the Engineer. After construction is complete, the Contractor shall perform an As-Built Survey, which shall be reviewed by the Engineer for acceptance of the Work.

2.2 **Dredge Slurry Pipeline Corridor** – Dredge pipe used by the Contractor to facilitate the placement of marsh creation fill material shall be placed in the proposed dredge slurry pipeline corridor and within the construction limits shown on the plans.

2.3 **Dredge Slurry Pipeline Crossings** – Existing casing pipes are located beneath the New Orleans and Gulf Coast Railway and LA 23 as shown on the Plans. Temporary dredge slurry pipeline crossings shall be constructed at the Mississippi River levee, along the proposed dredge slurry pipeline corridor, at West Ravenna Road, and at the Plaquemines parish flood protection levee as shown on the Plans.

2.4 **Containment Dikes** – Containment dikes are mandatory and shall be constructed from in-situ soils in order to create full perimeter containment for both fill areas. The Contractor may construct internal training dikes as necessary to improve containment or dewatering of the fill containment areas, but at no cost to the Owner. The Contractor shall maintain the integrity of the containment dikes during construction.

2.5 **Marsh Creation** – Spoil material shall be dredged from the Borrow Area in the Mississippi River and placed in Increment 2 Marsh Creation Area. The Contractor shall specify the size of the dredge(s) to be used to perform the Work in the Dredge Data Sheet and Work Plan. The material from the borrow area shall be pumped into the fill area as shown on the Plans.

2.6 **Settlement Plate** – A settlement plate shall be installed in the marsh fill area as shown on the Plans.

2.7 **Use of Equipment** – The equipment used for the Work shall be operated within the boundaries of the Project Construction Limits and away from existing vegetated wetlands or any other sensitive areas. The Contractor shall be responsible for returning all disturbed wetlands to pre-existing conditions at no expense to the Owner.

*The use of Flotation Channels on this project is prohibited*.

## SP-3 BID ITEMS, CONTRACT DATES, AND DELIVERABLES

| Milestone | Location or Recipient | Date Due |
|---|---|---|
| Bid Advertisement | Publications | As advertised |
| Mandatory Pre-Bid Conference and Site Visit | Provided in Notice to Bidders | Provided in Notice to Bidders |
| Questions on Bid Documents | Deliver to OSP | 3 calendar days after Pre-Bid Conference |
| Effective Date of Agreement | Contractor and Owner | Stated in Change Order |
| Start of Contract Time | Contractor and Owner | As stated in Change Order |
| Work Plan | Submit to Engineer | At least 14 days prior to Pre-Construction Conference |
| Progress Schedule | Submit to Engineer | At least 14 days prior to starting construction, monthly thereafter |
| Pre-Construction Conference | Contractor and Engineer | As determined by the Engineer after the Notice to Proceed is issued |
| Progress Meetings and Reports | At Project Site | Bi-weekly or as determined at the Pre-Construction Conference (See GP-13, GP-39) |
| As-Built Drawings | Deliver to Engineer | Prior to Final Inspection as scheduled by the Engineer |
| End of Contract Time | At Project Site | **75** calendar days past the original Contract Time |

## SP-4 DELIVERABLES

4.1 Prior to Construction

4.1.1 The Contractor shall submit the following documents to the Engineer prior to the Pre-Construction Conference specified in GP-14:

4.1.1.1 Work Plan as specified in SP-6;

4.1.1.2 Progress Schedule as specified in GP-9;

4.1.1.3 Copy of typical Daily Progress Report as specified in GP-10.

4.1.1.4 Hurricane and Severe Storm Plan as specified in GP-11;

4.1.1.5 Health and Safety Plan as specified in GP-12.

4.1.2 The Contractor shall provide the following information to the Engineer at the Pre-Construction Conference specified in GP-14:

4.1.2.1 Updates to all plans and schedules based on comments from the Engineer;

4.1.2.2 Potential construction corridors (if needed, other than from what is provided) which may be approved on an as needed basis.

4.2 During Construction

The Contractor shall deliver copies of the following documents upon request by the Engineer, or as specified in these provisions:

4.2.1 The results of all surveys and calculations as specified in TS-3;

4.2.2 Progress Schedule as specified in GP-9;

4.2.3 Daily Progress Reports as specified in GP-10;

4.2.4 Copies of all inspection reports;

4.2.5 All Change Orders, Field Orders, Claims, Clarifications, and Amendments;

4.2.6 Results of any materials testing.

4.3 Administrative Records

4.3.1 Notice of Intent to Dredge

At least 30 days prior to commencement of Work on this Contract, the Contractor shall notify the U.S. Coast Guard, Sector New Orleans Command Center, at the address below, of his intended operations to dredge and request that it be published in the Local Notice to Mariners. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least seven (7) days prior to the commencement of this dredging operation. A copy of the Department of the Army Permit and drawings shall be provided to the U.S. Coast Guard. A copy of the notification shall be provided to the Owner and Engineer.

U.S. Coast Guard
Sector New Orleans Command Center
201 Hammond Hwy
Metairie, LA 70005
504-846-5923

4.3.2 Relocation of Navigational Aids

Temporary removal of any navigation aids located within or near the areas required to be dredged or filled and material stockpile areas shall be coordinated by Contractor with the U.S. Coast Guard prior to removal. The Contractor shall not otherwise remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. The Contractor shall notify the Eighth U.S. Coast Guard District, New Orleans, Louisiana, in writing, with a copy to the Owner and Engineer, seven (7) days in advance of the time he plans to dredge or Work adjacent to any aids which require relocation to facilitate the Work. The Contractor shall contact the U.S. Coast Guard for information concerning the position to which the aids will be relocated.

4.3.3 Dredging Aids

The Contractor shall obtain approval for all dredging aids, including but not limited to temporary navigation aids, warning signs, buoys, and lights, he requires to conduct the Work specified in this Contract. The Contractor shall obtain a temporary permit from the U.S. Coast Guard for all buoys or dredging aid markers to be placed in the water prior to installation. The permit application shall state the position, color, and dates to be installed and removed for all dredging aid markers and be submitted to the U.S. Coast Guard. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids. Copies of the application and permit shall be submitted to the Owner and Engineer seven (7) days prior to commencement of dredging operations.

4.3.4 Notification of Discovery of Historical or Cultural Sites

If during construction activities the Contractor observes items that may have prehistoric, historical, archeological, or cultural value, the Contractor shall immediately cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources. Such observations shall be reported immediately to the Owner and Engineer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special dispositions of the finds should be made. The Contractor shall report any observed unauthorized removal or destruction of such resources by any person to the Owner and Engineer so the appropriate State of Louisiana authorities can be notified. The Contractor shall not resume Work at the site in question until State authorities have rendered judgment concerning the artifacts of interest.

4.4 Post Construction

The Contractor shall contact the Engineer by phone, a minimum of five (5) working days prior to the anticipated completion of the Work in order to schedule the final inspection and gain Acceptance by the Engineer. The following documents shall also be submitted to the Engineer:

4.4.1 Copies of all delivery slips, which shall include the source of construction materials, date of delivery, exact quantity, and size of materials delivered with each shipment to the Project Site;

4.4.2 As-Built Drawings as specified in TS-3.

4.5 Summary of Project Submittals

The following table is a summary of submittals required of the Contractor as part of this section and other sections of these Specifications:

| SPECIFICATION | DELIVERABLE | SUBMITTAL |
|---|---|---|
| GP-9 | Progress/Work Schedule | Prior to Pre-construction conference |
| GP-19 | Names of all Subcontractors | Prior to awarding subcontracts |
| GP-10 | Daily Progress Reports | As directed by the Engineer |
| GP-53 | Written Notice of Completion of Work | Upon completion of work |

## SP-5 ADDRESSES FOR DOCUMENT DELIVERY

The Contractor shall contact the Engineers concerning bid documentation or questions. The addresses and contact information for the Engineers are listed as follows:

Project Engineer
Whitney Thompson, P.E.
450 Laurel Street
Suite 1200
Baton Rouge, Louisiana 70801
Phone: 225-342-9419
Fax: 225-342-6801

Field Engineer
Peter Hopkins, P.E.
2045 Lakeshore Drive
CERM Building, Suite 309
New Orleans, Louisiana 70122
Phone: 504-280-4070
Fax: 504-280-4066

The Owner and Engineer shall deliver all written Claims, Notices, Submittals, Plans, and other documents to the Contractor at the address indicated on the Bid.

## SP-6 WORK PLAN SUPPLEMENTAL

The following items shall be included in the Work Plan in addition to those required by GP-8:

6.1 Dredge Data Sheet as specified in SP-9;

6.2 Layout and construction schedule for internal training dikes and/or containment dikes;

6.3 Layout and schedule for discharge and dewatering of marsh creation area.

## SP-7 FAILURE TO COMPLETE ON TIME

For each day the Work remains incomplete beyond the Contract Time, as specified in SP-3, or Extension of Contract Time, as specified in GP-44, the sum of two-thousand four hundred fifty dollars ($2,450) per calendar day will be deducted from any money due to the Contractor as liquidated damages. The Contractor and Surety shall be liable for any liquidated damages that are in excess of the amount due the Contractor.

## SP-8 TRANSPORTATION

The Contractor shall provide a safe and reasonable means of transportation to and from the marine access structure, staging area, and Project Site for the Engineer and the federal sponsor throughout the Work. The schedule and pickup location shall be arranged by the Engineer and the Contractor prior to mobilization. Upon request, overnight room and board shall be provided to these personnel by the Contractor if adequate facilities are available. The Contractor shall provide a boat for the exclusive use of the Engineer and/or Inspector to tour the Project Site during the Work. The boat shall have the following features:

8.1 An enclosed cabin space;

8.2 Capable of maintaining 25 knots (29 mph);

8.3 Six (6) passenger capacity;

8.4 Coast Guard certified;

8.5 Operable marine radio;

8.6 All safety equipment required by the Coast Guard for the size and type of that boat;

8.7 Draft of two feet (2') or less.

The Contractor shall supply the fuel and maintain the boat. All mechanical malfunctions of the boat shall be repaired within twelve (12) hours. In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use other necessary boats at the expense of the Contractor. The costs associated with providing the boats shall be included in the lump sum price for Bid Item No. 8, "Mobilization and Demobilization".

## SP-9 DREDGE DATA SHEET

The Contractor shall complete the dredge data sheet in Appendix A for each dredge that is proposed to be used to perform the Work and include it in the Bid. Submittal of a dredge data sheet shall constitute a certification that the described equipment is available to, and under control of, the Contractor. The Dredge Data Sheet is for informational purposes only and will not be used as a basis for Award. The data is pertinent to the evaluation of the proposed dredges and their capability to perform the Work. The bidder may only omit data or information that is considered to be proprietary.

## SP-10 OFFICE FOR OWNER

The Contractor shall provide an office for the Engineer and Inspector at the Project Site if requested by the Engineer. This office shall be for the sole use of the Engineer or Inspector, suitably sized, and provided with lighting, heat, and air conditioning. The office furnishings shall include a work table, drafting table, stool, and two chairs.

In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use another necessary office at the expense of the Contractor. The cost for providing and furnishing this office shall be included in the contract lump sum price for Bid Item No. 8, "Mobilization and Demobilization".

SP-11 LANDOWNER AND PIPELINE REQUIREMENTS

The Owner has obtained all temporary easement, servitude, and right-of-way agreements required for construction of the project. The agreements executed with landowners for the Work at the site contain special requirements pertaining to access routes and insurance. A land rights memorandum is included in Appendix C. The Contractor shall abide by the stipulations set forth by the respective landowners (Grantors):

Marsh Fill Area:

River Rest LLC
820 Fairfield Avenue
Gretna, LA 70056
504-392-1232
Contact: Mr. Michael M. Bush

Dredge Slurry Pipeline Corridor:

Conoco-Phillips
15551 Hwy. 23
Belle Chasse, LA 70037
504-415-8091
Contact: Randy Borne

Plaquemines Parish Government
8056 Highway 23, Suite 308
Belle Chasse LA 70037
504-392-6690
Contact: Albertine Kimble

The Contractor shall add the landowners as an additional insured. It is also agreed and understood that the Contractor will at all times indemnify and hold harmless all landowners from and against any and all claims, demands, causes of action, judgments, liabilities, and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries to and death of employees of the landowners and the Contractor's employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of your rights hereunder, or to your presence upon or use of the landowners' premises above referred to, or to the use or existence of your facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim, or cause of action is caused by the negligence of the landowners, their employees, agents, or representatives.

The Contractor shall notify all pipeline companies at least seventy-two (72) hours in advance of any construction work. All pipelines located within one hundred fifty feet (150') of the dike

alignments, marsh fill areas, borrow area, and dredge slurry pipeline corridor shall be probed and their locations marked prior to excavation and installation of the dredge slurry pipeline, for the duration of construction activities. No excavation shall be permitted within fifty feet (50') of any pipeline in the dredge slurry pipeline corridor or the marsh creation areas. No hydraulic dredging shall be permitted within five hundred feet (500') of any existing pipeline in the Mississippi River. The Naomi siphon pipes shall be probed, located, and marked prior to excavation. No excavation shall be permitted within twenty-five feet (25') of the edge of the siphon pipes. The dredge slurry pipeline shall be placed a minimum of twenty-five feet (25') from the edge of the siphon pipes. See TS-1.3 for utility coordination and overhead lines compliance.

Borrow Area:

Entergy
985-850-1253
Contact: Gary Hergert

Plains All American Pipeline, L.P.
1901 Engineers Road
Belle Chasse, LA 70037
504-393-6282
Contact: Rusty Cavalier

Dredge Slurry Pipeline Corridor:

Overhead lines:
Entergy Louisiana LLC
1000 Harimaw Court West
Metairie, LA 70001
504-219-4207
Contact: Joe Giammalva

Water lines:
Plaquemines Parish
8056 Highway 23, Suite 308
Belle Chasse LA 70037
504-297-5414
Contact: Gene Fox

Marsh Fill Areas:

Shell Oil
Nairn Station
31617 Hwy 23, South
Buras, Louisiana 70041 or

1060 Destrehan Ave
Harvey, LA 70058

| | |
|---|---|
| *Contact: Jerry Juncker | 225-328-8683 |
| *Contact: Kevin Arceneaux | 985-873-3429 Office |
| | 985-790-2868 Mobile |

***Both Shell representatives must be notified prior to commencing construction activities.**

SP-12 OYSTER LEASE RESTRICTIONS

There are no known existing oyster leases near or within the boundaries of the Project Site. Therefore, no oyster lease restrictions are provided for performing the Work within the boundaries of the Project Site.

SP-13 THREATENED AND ENDANGERED SPECIES

The Environmental Assessment for this project identifies Pallid Sturgeon, Brown Pelicans, Bald Eagles, and West Indian Manatees as threatened and endangered species which have the potential to exist within the boundaries of the Project Site. The Contractor shall review and comply with the restrictions listed below regarding construction activities.

West Indian Manatee – The following precautions will be implemented from May to October, when manatees have the greatest potential for entering the project area:

- All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s).
- All personnel associated with the project shall be instructed about the possible presence of manatees and the need to avoid collisions with and injury to manatees. Any sighting of, collision with, or injury to a manatee shall be immediately reported to the Engineer.

The following special operating conditions shall be implemented upon the sighting of a manatee within one hundred (100) yards of the active work zone:

- No operation of moving equipment within fifty feet (50') of a manatee;
- All vessels shall operate at no wake/idle speeds within one hundred (100) yards of the work area; and
- Siltation barriers, if used, shall be re-secured and monitored.

Bald Eagles – Construction activities will ensure that bald eagle nest trees are not adversely affected, including their root systems through soil compaction or disturbance.

Pallid Sturgeon – To ensure protection of the pallid sturgeon, all personnel associated with the project will be informed of the potential presence of the pallid sturgeon and take actions to induce them to leave the immediate work area prior to dredging regardless of water depth or time of year. The following actions shall be implemented to help prevent any potential project related direct or indirect effects to the pallid sturgeon:

- The cutterhead shall remain completely buried in the bottom material during dredging operations.
- If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate shall be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased.
- During dredging, the pumping rates shall be reduced to the slowest speed feasible while the cutterhead is descending to the channel bottom.

## SP-14 APPLICABLE CODES OF FEDERAL REGULATION (CFR)

The following codes of federal regulation (29 CFR 5.5) shall be followed throughout the duration of the project. All costs associated with implementing these codes shall be included in Bid Item No. 13, "Federal Reporting".

**(1) Minimum wages**. **(i)** All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

**(ii) (A)** The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(2) The classification is utilized in the area by the construction industry; and
(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

**(B)** If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

**(C)** In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

**(D)** The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

**(iii)** Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

**(iv)** If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**(2) Withholding**. The Department of Commerce or (write in the name of the loan or grant reci-

pient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the Department of Commerce may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**(3) Payrolls and basic records. (i)** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

**(ii)(A)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Department of Commerce if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Department of Commerce. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Department of Commerce if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the De-

partment of Commerce, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

**(B)** Each payroll submitted shall be accompanied by a ``Statement of Compliance,'' signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

**(C)** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the ``Statement of Compliance'' required by paragraph (a)(3)(ii)(B) of this section.

**(D)** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

**(iii)** The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Department of Commerce or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**(4)** Apprentices and trainees--**(i)** Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an ap-

prentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(ii)** Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(iii)** Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

**(5)** Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**(6)** Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Department of Commerce may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**(7)** Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**(8)** Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**(9)** Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**(10)** Certification of eligibility. **(i)** By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

**(ii)** No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

**(iii)** The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

# PART III TECHNICAL SPECIFICATIONS

## TS-1 DREDGE SLURRY PIPELINE CORRIDOR

### 1.1 Construction Limits

All construction equipment must be located within the construction limits shown on the Plans. The construction limits of the proposed dredge slurry pipeline corridor shall be no greater than one hundred feet (100') in width along the north-south drainage canal and West Ravenna Road as shown on the Plans. All Work must take place within the construction limits. All equipment staging areas shall be described in the Work Plan and approved by the Engineer prior to construction and mobilization. No construction activities shall take place south of the drainage canal located south of West Ravenna Road. No construction activities shall be conducted east of the north-south drainage canal, which is located east of the proposed dredge slurry pipeline corridor. All access corridors and construction limits shall be returned to pre-construction conditions prior to demobilization.

### 1.2 Equipment and Construction Access

Access to the Mississippi River borrow site is only available through use of a boat through Federal and State authorized water bottoms. The Contractor may be required to place a temporary marine access dock to facilitate equipment access to the Mississippi River for the duration of construction activities. See Plan Sheet 7 for clarity. Proposed temporary marine access dock shall be included in the Work Plan for approval by the Engineer prior to construction and placed within the construction limits. All costs associated with the temporary marine access dock shall be included in Bid Item No. 8, "Mobilization and Demobilization".

The equipment access route shown on the plans may be used during construction to temporarily transport construction equipment, materials, and labor to the marsh creation area and shall meet the landowner requirements specified in the land rights memorandum in Appendix C. The slurry pipeline used for marsh creation shall be placed within the proposed dredge slurry pipeline corridor and within the construction limits shown on the plans. The Contractor's proposed equipment access route and slurry pipeline location shall be submitted in the Work Plan for approval prior to mobilization. The Plaquemines Parish Government (PPG) property is a permitted equipment staging area bounded by the construction limits and offsets shown on Plan Sheet 7. The Contractor shall submit all equipment and staging areas to be used on the PPG property in the Work Plan for approval prior to mobilization.

Dredge slurry pipelines, marsh buggies, and marsh creation construction equipment shall enter the marsh fill area via state water bottoms or the equipment access road shown on the Plans. Existing drainage shall not be impeded due to

the placement of the slurry pipeline or any construction equipment. This includes the canal south of West Ravenna Road and the flood protection levee canal. Tracked equipment may only cross the 20" Shell oil pipeline at the point specified on Plan Sheet 4. Travel across marsh vegetation outside the designated construction fill area and access routes will not be allowed. Additional information regarding repair of areas damaged from the land-based equipment can be found in TS- 5.7 Restoration of Marsh Damages.

1.3 Overhead Utilities Compliance

Construction activities will take place near Entergy power lines and precautions shall be taken to avoid impeding regular operations. It is understood and agreed that the wires supported by structures on the Entergy right of way are conductors of, and at all times have in them, high voltage electricity. No person, or object in contact with a person, may touch or be near to said wires or other fixtures on said structures, because to do so or to permit such would be dangerous to the life of the party so doing, as well as anyone else in the area where such occurred. The Contractor agrees to inform each and every individual of such facts before such party enters upon any part of the easement area shown on Plans during the time such work is being prepared, done or completed, or any equipment moved to, upon or from said property and Entergy shall be indemnified by the Contractor from any injury or death resulting there from in accordance with the terms of the indemnity agreement set forth in the land rights memorandum. The area within Entergy's right of way is to be used only for the purposes disclosed to Entergy, and no buildings or components of buildings are to be located or protruding into the right-of-way. Any work performed in this area must be done in accordance with all NESC (National Electric Safety Code) requirements concerning clearances from energized facilities, grounding of any installations and any other applicable code requirements. All OSHA regulations must be met and maintained during the construction, operation, and maintenance of all facilities within the right-of-way. It is also agreed and understood that Contractor will at all times indemnify and hold harmless Entergy from and against any and all claims, demands, causes of action, judgments, liabilities, and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries and death to employees of Entergy and Contractor's employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of the Contractor's rights hereunder, or to the Contractor's presence upon or use of Entergy premises above referred to, or to the use or existence of the Contractor's facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim or cause of action is caused by the sole negligence of Entergy, its employees, agents, or representatives. All equipment used on the property shall have a maximum height not to exceed NESC clearances allowed, or shall be provided with guard chains limiting moveable parts of the equipment to that maximum height. No fencing, tents, jack-up lighting, or light poles of any kind are permitted inside Entergy's right-of-way at any time. Entergy will have full access and use of the right-of-way at all times for any work projects or maintenance and shall not be responsible for any damage to the proposed pipeline crossing Entergy's right of way. Entergy must approve any additional improvements to the right-of-way area. Upon termination of the use of the Enter-

gy Right-of-Way, Contractor shall return the property to as near as practical to its pre-use condition.

1.4 Dredge Slurry Pipeline Corridor

Naomi Siphon to North-South Drainage Canal

The dredge slurry pipeline from the Mississippi River shall be placed along the dredge slurry pipeline corridor near the Naomi Siphon as shown on the Plans. The east-west section of the dredge slurry pipeline corridor near the Naomi siphon is owned by the Plaquemines Parish Government. The Naomi siphon pipes shall be probed, located, and marked prior to excavation and placement of equipment. No excavation shall be permitted within twenty-five feet (25') of the edge of the siphon pipes. The dredge slurry pipeline shall be placed a minimum of twenty-five feet (25') from the edge of the siphon pipes if the trenching option is not utilized. The Contractor may use the optional trench excavation to facilitate the dredge slurry pipeline placement as shown on Plan Sheet 7. The optional trench excavation shall be constructed to ensure that the stability of the trench is maintained during use. Temporary spoil shall be placed on either side of the trench and backfilled prior to demobilization. The Contractor's methodology to maintain trench stability and the temporary spoil locations shall be included in the Work Plan for approval prior to construction. Any alternate dredge slurry pipeline placement methods shall be included in the Work Plan for approval by the Engineer. The Contractor shall install and maintain safety netting around all open cut excavations during construction to ensure public safety. The existing fence near the LA 23 crossing may be removed temporarily to facilitate the installation of the dredge slurry pipeline and shall be arranged to prevent the loss of cattle. The fence shall be reconstructed to pre-project conditions prior to demobilization. The dredge slurry pipeline shall then be placed westward across the north-south drainage canal.

North-South Section

The north-south section of the dredge slurry pipeline corridor consists of an existing dirt road. The dredge slurry pipeline shall be placed on the eastern side of the dirt road adjacent to the north-south field drainage canal as shown on the Plans. Field drainage shall not be impeded due to pipeline placement.

West Ravenna Road East-West Section

The southern most east-west section of the dredge slurry pipeline corridor is located along West Ravenna Road. The dredge slurry pipeline shall be placed on the south side of West Ravenna Road and shall not impede daily traffic. The dredge slurry pipeline shall cross the Plaquemines Parish flood protection levee and enter the adjacent marsh at the location shown on Plan Sheet 6. The proposed location of the dredge slurry pipeline and any proposed pipeline crossings shall be included in the Work Plan for approval prior to mobilization.

1.5 Measurement and Payment

All costs for installation of the dredge slurry pipeline and pipeline crossings, and for maintaining the dredge slurry pipeline corridor and materials, shall be included in Bid Item No. 8, "Mobilization and Demobilization". These costs include but are not limited to fencing, excavation, crushed aggregate placement, timber placement, temporary or permanent pipeline warning signs, and pipeline markers.

1.6 Dredge Slurry Pipeline Crossings

1.6.1 Scope of Work

This Work consists of furnishing and assembling the materials needed to construct dredge slurry pipeline crossings in accordance with these Specifications and the project Plans or as directed by the Owner and Engineer. The pipeline crossings shall be constructed to protect and maintain the Mississippi River and Flood Protection levees, and provide access for levee maintenance, landowners, and stakeholders. Typical sections for the dredge slurry pipeline crossings are shown on Plan Sheets 11-14. LA 23 and the New Orleans and Gulf Coast Railroad crossings criteria are specified in TS 1.7.

1.6.2 Materials

Dredge slurry pipeline levee crossings shall be constructed using crushed aggregate, timbers, and all other materials necessary in accordance with the Plans. The crushed aggregate shall conform to the Louisiana Standard Specifications for Roads and Bridges, 2000 edition, Standard Specification 1003.04 (a). Timbers shall be treated, 6"x6"x4', or other approved equal.

1.6.3 Levee Crossings

The Mississippi River and flood protection levee roads must be crossed at the locations shown on the Plans. Typical sections are shown on Plan Sheets 11-14. Temporary crossings shall be built to facilitate the crossing of a truck, tractor, or maintenance vehicle. Crossings shall be covered with a minimum one foot (1') layer of crushed aggregate on 1(V):20(H) slopes. **No excavation shall be permitted within one hundred feet (100') from the toe of the Mississippi River and hurricane protection levees.** Temporary pipeline markers shall be placed and maintained during construction at the toe of each levee in line with the pipe crossing indicating owner, size, number of lines, contents, and the address for contacting owner as shown in the Plans.

### 1.6.4 Existing Gates

Two existing cattle gates must be crossed at the locations shown on the Plans. Work conducted near existing cattle gates shall not affect daily cattle operations. Gates may be opened to place the dredge slurry pipeline. Temporary barriers shall be constructed to retain cattle. The Contractor shall submit a proposed cattle gate crossing detail in the Work Plan prior to mobilization.

### 1.6.5 Canal Crossing

The dredge slurry pipeline shall cross the north-south drainage canal at the location shown on the Plans. Canal flow shall not be impeded by the dredge slurry pipeline. The Contractor shall submit a proposed temporary canal crossing detail in the Work Plan prior to mobilization.

### 1.6.6 Proposed Cattle Crossings

Four (4) temporary gravel and/or earthen ramps are required to facilitate cattle crossings. Proposed drawings and any additional proposed locations shall be included in the Work Plan prior to construction.

### 1.6.7 Gravel Road and Driveway Crossings

Gravel roads and driveways shall be crossed at the locations shown on the Plans. The typical crossing shown on Plan Sheet 13 may be modified to provide access for landowners for gravel roads and/or driveways. Existing roads and/or driveways may be excavated to facilitate the placement of the dredge slurry pipeline and shall be backfilled prior to demobilization. All gravel road and driveway crossings shall be sufficient to accommodate vehicle traffic during construction. The West Ravenna Road crossing shall be sufficient to accommodate tandem axle vehicles. All gravel road and driveway crossings shall be restored to pre-project conditions prior to demobilization. Typical crossing plans shall be submitted in the Work Plan prior to mobilization. The dredge slurry pipeline shall be placed along the south side of West Ravenna Road, and at no time shall construction activities hinder the flow of daily traffic along this road.

There shall be no excavation within fifty feet (50’) of any oil or gas pipeline crossing the proposed dredge slurry pipeline corridor as shown on the Plans.

### 1.6.8 Measurement and Payment

All costs incurred by the contractor for the placement, maintenance, and removal of the dredge slurry pipeline crossings shall be included in Bid Item No. 8, "Mobilization and Demobilization".

## 1.7 Existing Casing Pipe Crossings

### 1.7.1 Scope

The Contractor shall furnish all of the materials, labor, and equipment necessary to place temporary dredge slurry pipeline in the two (2) existing 48" diameter steel casing pipes underneath LA 23 and the New Orleans and Gulf Coast Railroad in conformity to the locations, lines, and grades provided on the Plans and in these Specifications. Typical sections for the casing pipe crossings are shown on Plan Sheet 11. The highway and railroad crossing locations are shown on the Plans. The Contractor shall notify highway and railroad representatives prior to construction and after work is complete. Contact information for these representatives is as follows:

Glenn Richard
LADOTD District Permit Specialist
504-437-3130

Donna Glover
Rio Grand Pacific Corporation
817-737-7287 ext. 103

### 1.7.2 Materials

Permanent pipeline markers shall be placed on each side of the highway and railroad as shown on the Plans to mark the crossing locations. Markers shall be placed subsequent to backfilling the installation pits or trenches, prior to demobilization. The pipeline marker signs shall be made in accordance with LADOTD Standard Specification 729. A proposed drawing of the permanent markers shall be included in the Work Plan for approval by the Engineer.

### 1.7.3 Right of Entry Railroad Agreement

The Engineer has obtained a permit from the New Orleans and Gulf Coast Railway Company, which will be provided at the Pre-Construction conference. The Contractor shall submit a Right of Entry agreement to the Rio Grande Pacific New Orleans and Gulf Coast Railway Company prior to beginning work. The Right-of-Entry agreement form is included in Appendix H.

1.7.4 Installation

Pits or trenches shall be excavated for dredge slurry installation and dredging operations as shown on the Plans or as necessary. When cut, the area shall be securely sheeted and braced to maintain stability of the excavations. A steel sheetpile or bracing system shall be used for excavations of greater depth than four feet (4') and shall be designed and stamped by a professional engineer. Disturbed areas shall be seeded or protected from erosion. The installation pit locations shown on the plans are based on the proposed dredge slurry pipeline corridor alignment shown on Plan Sheet 7, and the New Orleans and Gulf Coast Railway Company specifications shown in Appendix I. The Contractor's dredge slurry pipeline corridor shall be submitted in the Work Plan and shall meet all railroad requirements. Pumps shall be used to dewater excavation pits and maintain a dry bottom. If operations necessitate the removal of nearby fences, a temporary structure shall be constructed to maintain landowner/lessee operations. Fences shall be reconstructed prior to Demobilization, and the area shall be restored to pre-project conditions. The temporary dredge slurry pipeline installation plan shall be included in the Work Plan and submitted to the Engineer prior to mobilization.

The existing 10" and 20" water lines and 4" unknown line adjacent to LA 23 shall be probed, located, and marked prior to construction and excavation. If the existing water lines or utility lines are damaged during construction, the lines shall be repaired immediately to pre-project conditions at no cost to the Owner.

The Contractor shall not impede or disrupt the integrity and/or the operations of the Rio Grande Pacific New Orleans and Gulf Coast Railway and LA 23 travel lanes. Barricades and lights shall be installed for the protection of traffic and pedestrians as directed by the Engineer, the Rio Grande Pacific New Orleans and Gulf Coast Railway Company, and LADOTD.

The casing pipe shall be used to facilitate the temporary placement of the dredge slurry pipeline. Prior to demobilization, the casing pipes shall be capped, installation pits shall be backfilled, and the dredge slurry pipeline corridor shall be restored to pre-construction conditions.

1.7.5 Casing Pipe Caps

After the marsh fill has been accepted and the dredge slurry pipeline has been removed from the casing pipes, each end of each casing pipe shall be capped as shown on the Plans. Caps shall be welded to the casing pipe and shall be water tight. Steel casing pipe caps shall be included in Bid Item No. 1 "Mobilization/Demobilization". The price per casing pipe cap shall include all materials, labor, tools, equipment, and incidentals required to install the casing pipe caps as shown on the

plans.

1.7.6 Measurement and Payment

Payment for the installation of the temporary dredge slurry pipeline shall be made as Bid Item No. 8 “Mobilization and Demobilization”. The price shall include, but is not limited to, all materials, labor, tools, equipment, and incidentals and include the required trenched excavation for dredge slurry pipeline placement, sheeting, bracing, false work, jacking frame, casing, grouting, backfilling, restoration of area to original conditions, and clean-up.

Trench excavation required for the installation of the casing pipe is shown on Plan Sheet 11. Optional trench excavation to facilitate the placement of the dredge slurry pipeline shall be included in Bid Item No. 8 “Mobilization and Demobilization”.

Secondary monument BA03C-SM-01 is located near the LA 23 crossing. If this monument is disturbed or damaged during construction activities, the monument shall be replaced to LDNR standards at no cost to the Owner.

## TS-2 MOBILIZATION AND DEMOBILIZATION

2.1 Description

The Contractor shall provide all labor and equipment necessary to move personnel, equipment, construction materials, and incidentals to and from the Project Site. This shall include but is not limited to establishing offices, buildings, and other facilities necessary for the Work. As part of this Bid Item, the Contractor shall obtain bonds, required insurance, and include any other pre-construction expenses necessary to perform the Work. This section shall exclude the cost of construction materials listed in the Schedule of Bid Items. All costs associated with the dredge slurry pipeline corridor and the dredge slurry pipeline crossings shall be included in Bid Item No. 8 “Mobilization and Demobilization”.

*The use of Flotation Channels on this project is prohibited*.

2.2 Arbitrary Mobilization by Contractor

The Owner shall pay for only one mobilization and demobilization effort. Should the Contractor demobilize prior to completing the Work, subsequent remobilization shall be performed at no cost to the Owner.

2.3 Ratio of Mobilization and Demobilization Effort

Sixty percent (60%) of the mobilization/demobilization lump sum price will be paid to the Contractor upon completion of his mobilization to the Project Site. The remaining forty percent (40%) will be paid to the Contractor upon final acceptance of the Work and removal of all equipment and unused materials.

2.4 Justification of Mobilization Costs

In the event the unit cost does not bear a reasonable relation to the amount of work for mobilization and demobilization in the Contract, the Engineer may require the Contractor to produce cost data to justify the unit cost in the Bid. Failure to justify such cost to the satisfaction of the Engineer will result in payment of actual mobilization costs, as determined by the Engineer at the completion of mobilization, actual demobilization cost at the completion of the demobilization, and payment of the remainder of this item in the final payment under this contract. The determination of the Engineer is not subject to appeal.

2.5 Measurement and Payment

Payment for mobilization and demobilization shall be paid for at the contract lump sum price for Bid Item No. 8, "Mobilization and Demobilization". Payment shall constitute full compensation for moving personnel, equipment, supplies, and incidentals to and from the job site and establishing offices, buildings, and other facilities for the work, obtaining bonds, insurance, permit application fees, and any other associated expenses.

## TS-3 SURVEYS

3.1 Scope

The Contractor shall furnish all of the materials, labor, and equipment necessary to perform Pre-Construction, Process, and As-Built Surveys at the locations shown in the plans and as outlined in these Specifications. **Pre-construction surveys** are those required to be conducted prior to the commencement of Work. A Pre-Construction survey shall be performed to serve as a baseline for fill quantities. **Process surveys** are conducted during construction for quality control, partial payment, and acceptance. **As-built surveys** are post construction surveys to be performed after the completion of all Work. Accepted process surveys may be used as As-Built Surveys and shall be approved by the Engineer.

Secondary monument BA03C-SM-02 is part of LDNR's Secondary GPS Network and shall be used for horizontal and vertical control. The data sheet for the secondary monument is included in Appendix E. *Acceptance surveys shall be under the supervision of a Professional Engineer and approved by the Engineer. All other surveys shall be performed by personnel who are approved by the Engineer and under the direct supervision of a professional land surveyor licensed in the state of Louisiana.* These survey drawings shall be signed and sealed by the surveyor. Survey data shall reference the North American Datum of 1983 (NAD 83), Louisiana South Zone, U.S. Survey Foot for horizontal control, and the North American Vertical Datum of 1988 (NAVD 88), U.S. Survey Foot for vertical control.

The survey baseline and transects 1-3, perpendicular to the baseline as shown in the Plans, were established during engineering and design. Transects 10-19 shall be parallel to the baseline, as shown in the Plans. All marsh fill area surveys shall use the same transect coordinates. Design survey information shall be provided at the Pre-construction Conference.

## 3.2 Accuracy and Methodology

All surveys shall be conducted using the 5 cm accuracy standard. The Contractor shall use Digital Leveling Instruments, Real Time Kinematic (RTK) and Global Positioning System (GPS) receivers, and software necessary to achieve the required survey accuracy. A six inch (6") metal plate shall be attached to the bottom of the survey rod to prevent the rod from sinking past the bottom.

## 3.3 Pre-Construction Survey

The baseline and transects shown on the plans shall be surveyed and staked by the Contractor after the Pre-Construction Conference and prior to construction. This survey shall be used to verify the alignment of the various project features, determine fill volumes, quantities, and make modifications or adjustments as deemed necessary by the Engineer. Drawings of the plan views, cross sections, and calculations of projected quantities of materials shall be developed from this survey by the Contractor and submitted to the Engineer for review. All bathymetric surveys must be corrected for tidal fluctuations and wave action to the referenced datum.

### 3.3.1 Temporary Bench Marks (TBMs)

The Contractor shall also install additional TBMs as necessary to perform the survey. Horizontal and vertical coordinates shall be determined for all TBMs installed. The Contractor shall maintain the TBMs for the duration of the Work. In the event that a single TBM is disturbed and/or destroyed, the TBM may be reinstalled by approved personnel at the expense of the Contractor. If multiple TBMs are destroyed, the Engineer may require the TBMs to be reinstalled by a Professional Surveyor licensed in the State of Louisiana.

### 3.3.2 Baseline

The baseline shall be surveyed and staked at all points of inflection and transect intersections as shown on the Plans. The baseline shall be shown on the plan view drawings.

### 3.3.3 Containment Dikes

The alignment of all containment dikes and enhanced spoil banks within the fill area shall be surveyed and staked at a minimum of 500 ft intervals along the entire length of proposed containment dikes. The elevation and coordinates at each stake shall be recorded.

3.3.4 Marsh Creation Area

Elevations shall be surveyed and recorded at points every fifty feet (50') along each transect line, and shall extend two hundred feet (200') beyond the toe of the marsh fill containment dike alignment. The transects for the marsh creation areas shall be surveyed and staked at five hundred foot (500') intervals in grid format as shown on the Plans.

The Contractor shall develop drawings which show the cross sections and plan views. Elevations, coordinates, lines, and grades for the fill area shall be shown on the drawings. The Contractor shall also determine the projected quantities of marsh fill material and containment. The projected marsh fill quantities shall be calculated using a method that is approved by the Engineer, such as the average end area method or AutoCAD. The projected quantities of marsh fill material shall be calculated in cubic yards, and the containment dike quantities shall be calculated per linear foot.

3.3.5 Borrow Area

The borrow area pre-construction survey transects shall be spaced five hundred feet (500') apart, perpendicular to the borrow area center line, and extend five hundred feet (500') past the limit of the cut unless otherwise shown on the Plans. The pre-construction borrow area survey must be submitted to and approved by the Engineer prior to beginning excavation or dredging.

3.3.6 Settlement Plate

The elevation of the top of the settlement plate shall be recorded and reported to the nearest tenth of a foot (0.1') NAVD 88 upon installation.

3.3.7 Magnetometer Survey

A magnetometer survey has been performed in preparation for this project in an effort to verify locations and depths of pipelines and other underwater obstructions in the borrow area and marsh creation area. See Appendix F for all borrow area magnetometer survey information.

*A magnetometer survey is recommended to be performed in the borrow area and the marsh creation area prior to excavation and dredging to verify pipeline locations and depths and other underwater obstructions.* Magnetometer track lines should be run along the centerline alignment of the proposed containment dike and enhanced spoil bank borrow pit locations. Additional magnetometer lines should be run perpendicular to the containment dike and enhanced spoil bank locations. These track lines should begin at the outer edge of the containment dike or enhanced spoil bank and extend twenty-five feet (25') past the containment dike or enhanced spoil bank borrow pit and shall be spaced a maximum of two hundred fifty feet (250') apart.

Magnetometer track lines in the Mississippi River borrow area should form a grid pattern with a maximum offset of five hundred feet (500') apart, and should be oriented north-south and east-west. A magnetometer survey must be performed at all locations along the dredge slurry pipeline corridor where excavation will take place to accommodate the dredge slurry pipeline. Magnetometer surveys shall be provided to the Engineer prior to excavation and dredging. This does not relieve the Contractor of responsibilities set forth in GP-25 Utilities.

3.3.8 Pipeline Locations

All pipelines located within one hundred fifty feet (150') of the containment dike alignments, marsh fill area, borrow area, and dredge slurry pipeline corridor shall be probed for depth and their locations marked prior to excavation, dredging, and installation of the dredge slurry pipeline, for the duration of construction activities. A buffer distance of fifty feet (50') for the 20" Shell oil pipeline in Marsh Creation Area 2 shall also be staked prior to excavation. No hydraulic dredging may take place within five hundred feet (500') of any existing pipeline in the Mississippi River.

3.4 Process Survey

The baseline and transects used for the Pre-Construction survey and shown on the Plans shall be used for the Process Survey. This survey shall be used for payment of the marsh fill volumes, payment of the containment dikes, and to make modifications or adjustments as deemed necessary by the Engineer. Drawings of the plan views and cross sections and calculations of quantities of materials shall be developed from this survey by the Contractor and submitted to the Engineer for review and payment. The volume of each cell shall be calculated using the average end area method in both directions. The two volumes shall be averaged to yield the volume of the cell. The quantities of marsh fill material shall be calculated in cubic yards, and the containment dike quantities shall be calculated per linear foot. All bathymetric surveys must be corrected for tidal fluctuations and wave action to the referenced datum.

3.4.1 Containment Dikes

After the containment dikes have been constructed, the toes and top centerline of the containment dikes shall be surveyed a minimum of every five hundred feet (500'). The elevation and coordinates shall be recorded and used to create plan views and cross sections of the containment dikes to ensure that the dikes have been constructed to the dimensions shown on the plans and as per TS 4.5.

3.4.2 Marsh Creation Area

Transects shall be surveyed at points every fifty feet (50') along each transect line. The marsh creation area shall be surveyed monthly, or as directed by the Engineer, at all survey transects shown on the Plans as well as all points of inflection. The Engineer shall evaluate the process surveys to determine if the fill lift is to be accepted or modified as per TS-5.11. The Contractor shall perform additional survey transects in marsh fill areas as deemed necessary by the Engineer. Those portions of dredge fill which are modified must also be resurveyed. Plan views and cross sections shall be used for the calculation of the marsh fill volume. The marsh fill quantities shall be calculated using a method that is approved by the Engineer, such as the average end area method or AutoCAD.

*Process surveys for acceptance shall consist of transects spaced 250' apart in grid format and/or at locations directed by the Engineer and shall be stamped by a Professional Engineer.*

*Process surveys to be used for payment shall include x,y,z data representing the intersection of the dredged fill material with the containment dike or existing feature used as containment. Points shall be taken at transect and containment dike profile locations around the boundary of the marsh creation area where the pumped material meets the containment dike or fill area boundary and at any change in direction of marsh creation area boundary. These points shall be coded "MLN" and submitted in x,y,z format.*

3.4.3 Borrow Area

The location of the dredge cutter head shall be known at all times during dredging operations as per TS-5.

3.4.4 Settlement Plate

The elevation of the top of the settlement plate shall be recorded and reported to the nearest tenth of a foot (0.1') NAVD 88 weekly during marsh fill placement. This information shall be provided to the Engineer weekly.

## 3.5 As-Built Surveys

The marsh creation area, containment dikes, borrow area, and settlement plate shall be surveyed by the Contractor after construction is complete. Final payment will not be received until the As-Built Survey and Work have been accepted by the Engineer. All bathymetric surveys must be corrected for tidal fluctuations and wave action to the referenced datum.

### 3.5.1 Containment Dikes

The As-Built Survey shall incorporate the cross sections and plan views from the Process Surveys for all containment dikes.

### 3.5.2 Marsh Creation Area

The As-Built Survey shall incorporate the approved and accepted process surveys for all of the marsh fill area. The Contractor shall develop drawings which include the cross sections, plan views, elevations, quantities, and volumes from the process surveys. The dates, elevations, and volumes for each process survey shall be superimposed onto the corresponding fill cells on the plan views. The As-Built quantities of marsh fill material shall be calculated in cubic yards, and the containment dike quantities shall be calculated per linear foot.

### 3.5.3 Borrow Area

Borrow area As-Built Survey transects shall be spaced five hundred feet (500') apart, perpendicular to the borrow area center line, and extend five hundred feet (500') past the limit of the cut unless otherwise shown on the Plans.

### 3.5.4 Settlement Plate

The As-Built Survey shall incorporate the data from the process surveys for the settlement plate. The final settlement plate elevation shall be listed on the As-Built drawings.

## 3.6 Deliverables

The Pre-Construction, Process, and As-Built Surveys shall be stamped by a professional land surveyor licensed in the state of Louisiana. The Contractor shall provide the details for the survey layout in the Work Plan.

The pre-construction survey drawings and projected material quantities shall be submitted to the Engineer for review prior to excavation. Three copies shall be provided on 11"x17" paper and one digital copy provided in AutoCAD.

The Process Survey drawings, in-place material quantities, and supporting calculations shall be submitted to the Engineer for review immediately after they are completed in order to receive acceptance and payment. Three copies shall be provided on 11”x17” paper and one digital copy provided in AutoCAD.

The As-Built Survey and in-place material quantities shall be submitted to the Engineer by the date provided in SP-3 in order to receive acceptance and final payment. Three copies shall be provided on 11”x17” paper and two digital copies provided in AutoCAD. The survey shall incorporate all field changes, change orders, and quantities of materials placed. All revisions shall be shown in red and be easily distinguishable from the original design.

Point files of the Pre-Construction, Process, and As-Built Surveys shall be included in the digital copies, organized by transect, and shall contain the following information:

3.6.1 Point number;

3.6.2 Northing (NAD 83 U.S. ft.);

3.6.3 Easting (NAD 83 U.S. ft.);

3.6.4 Elevation of the top of soil (NAVD 88 ft.);

3.6.5 Elevation of the water level (if applicable) (NAVD 88 ft.);

3.6.6 Description.

3.7 Measurement and Payment

Payment for Surveys shall be made at contract lump sum price for Bid Item No. 9, “Surveys”. Price and payment shall constitute full compensation for furnishing all labor, materials, and equipment to perform the Pre-Construction, Process, and As-Built Surveys specified herein.

## TS-4 EARTHEN CONTAINMENT DIKE CONSTRUCTION AND MAINTENANCE

4.1 Scope

*The Contractor shall furnish all of the materials, labor, and equipment necessary to construct and maintain the containment dikes in accordance with the Specifications and in conformity to the lines, grades, elevations, and tolerances shown on the Plans. The containment dikes shall be maintained by the Contractor to the greatest extent possible until the fill area has been accepted and completed according to the Plans and these Specifications.*

4.2 Materials and Construction

*The boundaries of the earthen containment dikes and enhanced spoil banks are depicted on the Plans. Earthen containment dikes and enhanced spoil banks shall be erected to the lines, grades, and elevations specified in the drawings as necessary to facilitate the placement of marsh fill material. The two containment dikes along Chenier Traverse Bayou shall be constructed using in-situ material to the lines, grades, and elevations specified in the Plans to the greatest extent possible, as directed by the Engineer.*

*The containment dikes shall be constructed using in-situ material from the marsh creation area and borrow pits shall be re-filled during dredging. Degradation of containment dikes and enhanced spoil banks shall be required upon completion of the project to achieve a consistent marsh creation platform as directed by the Engineer. See section TS 4.6 Degradation of Earthen Containment Dikes and Enhanced Spoil Banks for additional details.*

4.3 Landowner Requirements

No excavation is permitted within fifty feet (50') of the 20" Shell oil pipeline near the Plaquemines parish flood protection levee. A Shell representative shall be present when equipment is to cross this pipeline, and the only corridor to be used to cross the pipeline, unless otherwise directed by the Shell representative, shall be the equipment access road north of West Ravenna Road as shown on Plan Sheet 4. A gate key will be provided for the gravel access road at the Pre-Construction Conference. The pre-construction condition of the gravel access road shall be maintained throughout construction. A layer of crushed aggregate shall be placed prior to construction to ensure that the integrity of the road is maintained.

The Contractor shall submit a dike construction and maintenance plan in the Work Plan. The Contractor shall take all precautions necessary to prevent effluent from flowing into adjacent properties and onto areas outside the construction limits. Therefore, the Contractor may be required to construct, temporarily degrade, or gap containment dikes to better control effluent discharge, if effluent discharge problems persist during construction. Additional details on effluent control can be found in TS-5.8 Dewatering.

4.4 Access

All equipment for containment dike construction shall access the project area via state water bottoms or the equipment access road shown on Plan Sheet 4. Access to the internal areas shall be through open water to the extent possible. Proposed access routes for equipment used to facilitate the construction of the containment dikes shall be submitted in the Work Plan for approval. Any access route that requires travel across existing marsh must first be approved by the Engineer or the Inspector. Additional details for construction access are described in TS-1 Dredge Slurry Pipeline Corridor.

4.5 Tolerance

Construction of the earthen containment dikes and enhanced spoil banks shall be as close to the elevations and areas shown on the drawings as possible, with a maximum crest vertical tolerance of plus one-half of one foot (0.5') above containment target elevation. The containment dike and enhanced spoil bank crown target elevation is +3.0' NAVD 88.

4.6 Degradation of Earthen Containment Dikes and Enhanced Spoil Banks

Earthen containment dikes and enhanced spoil banks must be the same elevation as the marsh creation platform upon completion of the project. Degradation of earthen containment dikes and enhanced spoil banks shall be required upon completion of the project to achieve consistent marsh elevations, unless otherwise directed by the Engineer. Spoil from dike degradation shall be used to fill any low lying areas over the containment dike borrow pits. After spreading to marsh elevation, remaining spoil shall be placed in adjacent canals or adjacent open water. All costs associated with the degradation of the containment dikes and enhanced spoil banks should be included in Bid Item No. 10 "Earthen Containment Dikes".

4.7 Measurement and Payment

Payment for earthen containment dikes and enhanced spoil banks will be made at the contract unit price per linear foot for Bid Item No. 10 "Earthen Containment Dikes". Price and payment shall constitute full compensation for furnishing all labor, materials, and equipment for construction, maintenance, and degradation of all required containment and performing all Work as specified herein. *Payment for the two containment dikes along Chenier Traverse Bayou shall include furnishing all labor, materials, and equipment for construction, reasonable maintenance, and degradation of the dikes. These dikes may not be required to meet the target elevation shown on the Plans, as directed by the Engineer.*

TS-5 HYDRAULIC DREDGING

5.1 Scope

Hydraulic Dredging shall consist of excavating and satisfactorily placing dredged material in accordance with these Specifications and in conformity to the lines, grades, and elevations shown on the Plans or as directed by the Engineer. *Dredging to approximately -60' NAVD 88 is anticipated, and dredging to -70' NAVD 88 is permitted in areas shown on the Plans.* The materials to be dredged may consist of gravel, sand, silt, clay, muck, or shell. Additional materials such as logs, stumps, snags, tires, scrap, and other debris may be encountered within the specified limits of dredging and shall be removed and disposed of by the Contractor.

5.2 Method

The dredge equipment and attendant plant shall be in satisfactory operating condition, capable of efficiently performing the Work as set forth in the Plans and Specifications, and shall be subject to inspection by the Owner or Engineer prior to beginning the Work and at all times during construction. Wave and weather conditions within the borrow area of the project can prove difficult for some equipment. The Contractor shall include an equipment protection plan for acceptance and approval by the Engineer in the Work Plan prior to the Pre-construction Conference. The Dredge Data Sheet, including a complete description of the equipment the Contractor intends to use for dredging (size, horsepower, production rate, draft, etc.) must be completed and submitted with the bid. The Dredge Data Sheet may be found in Appendix A.

*The use of Flotation Channels on this project is prohibited*.

5.3 Dredge Location Control

No dredging shall be performed except as depicted in the Plans. No hydraulic excavation may take place within five hundred feet (500') of any existing pipeline or submerged transmission line. The contact information for pipeline representatives near the borrow area is listed below:

Entergy

Gary Hergert

985-850-1253

Plains All American Pipeline, L.P.

Rusty Cavalier

504-393-6282

The Contractor will be required to pay any costs, fines, or other expenses related to dredging outside of the borrow limits or permit violations resulting from Contractor negligence. If the Contractor does not pay costs, fines, or other expenses related to dredging outside of the borrow limits and/or permit limits, the Owner will deduct said costs, fines, and expenses from payments due the Contractor. Additionally, said costs, fines, and expenses may be recovered from the Contractor's bond for payment.

5.3.1 Horizontal Location

The Contractor is required to have electronic positioning equipment that will locate the dredge when operating in the borrow area. The Contractor shall keep this equipment functioning on the dredge at all times during construction and when the dredge is within one (1) mile of the borrow area. The Contractor is required to calibrate the equipment as required by the manufacturer. Proof of calibration shall be submitted to the Owner and Engineer. Continuous location of the dredge shall be

monitored at all times during dredging operations. The location is to be computed by coordinates in the Louisiana State Plane South Coordinate System, NAD 1983 (Lambert Conformal Conic) with a range error not to exceed fifteen feet (15'). Positions shall be recorded at least every ten (10) minutes and furnished daily as part of the Contractor's Daily Quality control Reports, along with the track of the dredge in relation to the dredge site. The Contractor's method of location of the dredge shall be submitted to the Owner and Engineer for review and approval with the Contractor's Work Plan.

5.3.2 Dredging Elevations

The Contractor is also required to have a dredging depth indicator capable of gauging the depth being dredged at all times for each piece and type of dredging plant being utilized. The instrument may be a graph type paper or electronic recorder. The paper or depth record produced by this instrument shall be submitted daily with the Daily Quality Control Report. Flagging or marking the winch cables is not an acceptable option to fulfill this instrument requirement. The indicators shall be in plain view of Operators and Inspector(s) and be adjusted to the reference datum, NAVD 88 (Geoid 99). The Contractor shall use surveying equipment and methodology specified in TS-3.2 Accuracy and Methodology to achieve this vertical datum if possible. If the borrow area is out of the range of the specified equipment, the Contractor shall use measured tides to adjust dredging depth to the reference datum. Proposed tide correction methods and measurements must be submitted in the Contractor's Work Plan for review and approval by the Owner and Engineer. *The maximum depth of cut is shown on the Plans.*

5.4 Submerged Discharge Lines

Dredge discharge lines that cross a navigable channel must be submerged. Submerged pipelines and any anchors securing the pipeline shall rest on the channel and shall be marked in accordance with USCG requirements. Submerged lines shall at no time reduce the depth and width of the existing channel in which it is placed by more than one foot (1.0'). The depth of any pipeline crossing a navigation channel shall be submitted to the USCG for publication. All submerged pipelines installed shall be marked with fluorescent orange buoys and signs stating "DANGER SUBMERGED PIPELINE" every one hundred fifty feet (150') for the length of the pipeline. "DANGER SUBMERGED PIPELINE" signs shall also be placed at the beginning and end of all submerged pipelines and at all abrupt changes of direction. Unless otherwise specified by the USCG, submerged pipelines are considered to require special marks and shall have USCG approved flashing yellow lights. When the submerged line is placed in shallow water, outside the navigable channel, where the possibility exists for small boats to cross over the submerged pipeline, the pipeline shall be marked with fluorescent orange buoys and signs stating "DANGER SUBMERGED PIPELINE" every one hundred fifty feet (150') throughout the

length of the submerged pipeline. Costs incurred by the Contractor for compliance with this section should be included in Bid Item No. 8, "Mobilization and Demobilization". A description of discharge line placement shall be included in the Work Plan.

5.5 Borrow Area Cut Sequence and USACE Restrictions

The Contractor must submit a proposed borrow area cut sequence with the initial Work Plan for approval by the Owner and Engineer prior to dredging operations. The proposed borrow area has been designed based on USACE restrictions. Side slopes of excavation must be no steeper than 1(V):5(H), per USACE restrictions. River excavation must proceed from landside to riverside limits to minimize the possibility of overburden failure of the bank per USACE regulations. If material is dredged outside of the area delineated on the Plans, the Contractor may be subject to deductions set forth in GP-47 Non-Conforming and Unauthorized Work. If the dredge slurry pipeline is to be placed parallel to the Mississippi River Levee, it shall be located at least forty feet (40') from the toe of the levee.

Dredge pipe installation, removal of the dredge pipe, and work over the levee is limited to when the stage of the Mississippi River is below elevation **+11.0' NGVD 1929** on the Carrollton Gage, at New Orleans, Louisiana, as per the Department of the Army Permit. Any barge within one-hundred feet (100') of the Mississippi River levee must be sufficiently spudded down when the river stage is above +11.0' NGVD 1929 on the Carrollton Gage at New Orleans, Louisiana. Any damage to the levee, batture, and/or bank resulting from the Contractor's activities shall be repaired at the Contractor's expense. All disturbed areas on the levee crown and slopes shall be restored to pre-project conditions and to the satisfaction of the West Bank Levee District. The Contractor shall assure that work does not impede or interfere with navigation on the Mississippi River and shall maintain ongoing coordination with the River Pilots Association and the United States Coast Guard.

5.6 Material Placement

The Contractor shall take all precautions necessary to prevent discharge material from flowing into adjacent properties and onto areas outside the construction limits. Any material that is deposited other than as indicated on the Plans or as approved by the Engineer may be required, by the Engineer, to be removed and deposited in approved areas at the Contractor's expense. Excess runoff of dredged material onto adjacent marshes shall be prevented by maintaining a sufficient distance from the discharge pipe to the edge of the existing marsh or through controlling discharge flow rates.

*Care shall be taken in placement of marsh material near the two containment dikes along Chenier Traverse Bayou due to soft in-situ soil conditions. Material placement methods in this area shall be adjusted in the field to the maximum extent possible. Target elevation in these areas may be adjusted to facilitate material placement, as directed by the Engineer.*

*Pumping into the Increment 2 marsh creation area will be allowed to begin immediately after the completion of Marsh Creation Area 1. If for any reason all containment dikes in the Increment 2 marsh creation area are not complete when the Contractor is ready to begin placing dredged material into the Increment 2 marsh creation area, LDNR (OCPR) will allow the Contractor to begin pumping as long as the location of the pipeline does not extend past the location where the containment dike is being constructed.*

The Contractor may be required by the Engineer to operate the dredge at a specified lower production rate and/or to temporarily suspend dredging operations for up to 2 days to allow the material to settle and dewater thereby ensuring project elevation and layout is obtained. Effluent control shall be maintained by the use of spillboxes/dewatering structures placed at the Contractor's discretion. All costs associated with this discharge control should be contained within the Bid Item No. 10 "Earthen Containment Dikes". If the Contractor is required by the Engineer to stop dredging, **no** additional payments will be granted until dredging activities are allowed to continue. The cost for this downtime should be included in the Contractor's bid.

*The Contractor shall provide a method for crossing the canal between the Increment 2 marsh creation area and Marsh Creation Area 1 in his Work Plan. Material from the existing canal spoil banks adjacent to this crossing may be used to form the outer edges to contain the sand fill material for this temporary crossing provided that as much as possible of this material is returned to the marsh creation areas when the crossing is removed.*

5.7 Restoration of Marsh Damages

The Contractor will be responsible for the restoration of any damages caused by unnecessary and/or careless operation during construction. Restoration may include the placement of additional dredged material to project elevations within the areas of damage at the expense of the Contractor and will be performed at the discretion and direction of the Engineer. All Construction Corridors in the marsh creation area(s) shall be repaired by pumping additional material into the area to natural marsh elevation.

5.8 Dewatering

The construction sequencing of this project shall be determined as necessary for dewatering purposes. The Contractor shall provide temporary facilities, such as turbidity screens, spill boxes, weirs, sedimentation berms, etc. necessary to dewater the material placed in the marsh creation area. Temporary controls shall be removed by the Contractor upon completion of the Work at the Contractor's expense. The Contractor shall include proposed dewatering locations and methodology in the Work Plan, which shall be submitted to the Engineer for approval prior to construction.

5.9 Pipeline Leaks

The Contractor shall maintain a tight discharge pipeline at all times. The joints shall be so constructed as to preclude spillage and leakage. If leaks occur, they shall be promptly repaired. The Contractor will transport the Engineer or his Inspector to the leak repair site for visual inspection. Failure to repair leaks or change the method of operation which causes excessive material loss, as determined by the Engineer, during transport to discharge site will result in suspension of dredging operations and require prompt repair or change of operation to prevent leakage as a prerequisite to the resumption of dredging.

5.10 Tolerance

Placement of hydraulic fill material shall be as close to the elevations and areas shown on the drawings as possible, with a maximum vertical tolerance of (±) 0.3'. The target elevation for marsh creation is +2.0' NAVD 88. **The maximum elevation is +2.3' NAVD 88**. The Engineer reserves the right to require portions of the project area to be at or near target elevation in order to maximize the amount of emergent marsh created should funding or dredged material properties prevent the entire fill area from reaching the target elevation. The Contractor will be made aware of such situations in writing by the Engineer during construction.

5.11 Acceptance

*The marsh creation area will be considered for acceptance when the marsh platform has reached and maintained an elevation between +1.7' and +2.3' NAVD 88 for a period of seven (7) days after hydraulic dredging is terminated. Acceptance will be based on the surveyed marsh fill elevation as per TS-3 Surveys, estimated to the nearest +0.1'. Acceptance surveys shall consist of transects spaced 250' apart in grid format and shall be stamped by a Professional Engineer. The average volume contained in each cell shall be calculated if the process survey elevations are accepted by the Engineer. The volume for each cell shall be calculated using the average end area method as per TS-3.4, or other method approved by the Engineer. Volume calculations shall be submitted to the Engineer for verification. The Engineer shall determine whether or not to accept the in-place volume within three (3) days.*

*All payment surveys will be performed by the Contractor and witnessed by the Engineer or Inspector twenty-one (21) days after hydraulic dredging is terminated, as per TS-3.4. If the average elevation of the inspected cell after twenty-one (21) days is below **the elevation of +1.7' NAVD 88**, the Engineer will require the Contractor to place additional material prior to final payment.* If the average elevation of the inspected cell is greater than **the elevation of +2.3' NAVD88**, the Engineer will require material to be removed at the expense of the Contractor. Should funding or dredged material properties prevent the entire fill area to reach the target elevation, the Engineer reserves the right to require portions of the project area to be at or near target elevation through use of training dikes or other such methods, in order to maximize the amount of emergent marsh created. The Contractor will be made aware of such instances in writing by the Engineer during construction.

5.12 Measurement and Payment

Payment for marsh creation will be made at the contract unit price per cubic yard of fill placed in the marsh fill area shown on the Plans for Bid Item No. 11, "Marsh Creation Fill". ***Payment will be made per cubic yard up to the maximum elevation of +2.3' NAVD 88 based on the pay survey twenty-one (21) days after hydraulic dredging is terminated***. There will be no payment for placing quantities in excess of the lines, grades, and elevations shown on the plans and stated in these specifications. Price and payment shall constitute full compensation for furnishing all plant, labor, materials, and equipment for dredging, satisfactory placement of dredged material into designated areas, all operations necessary for containment and dewatering of spoil material, and performing all Work as specified herein.

The Contractor may request partial payments. The volume included in the partial payment will be determined by the survey cross sections for the fill area that are submitted by the Contractor and approved by the Engineer. All surveys and visual inspections shall be performed when the Engineer or Inspector is present. The Contractor shall submit copies of all field survey data to the Engineer prior to payment for processing purposes.

TS-6 SETTLEMENT PLATE

6.1 Scope

The Contractor shall furnish all of the materials, labor, and equipment necessary to construct, install, survey, and maintain the settlement plate in accordance with the Plans and these Specifications.

6.2 Materials

Settlement plate shall be fabricated with a four foot (4') by four foot (4') by one fourth inch (¼") steel plate with a three inch (3") diameter galvanized riser pipe attached to the center of the plate with a threaded coupling. The pipe riser shall be a minimum of three feet (3') above the fill to facilitate elevation readings. The top will be closed with a threaded galvanized cap. After fabrication, the plates shall be hot-dipped galvanized.

6.3 Zinc Coating

Zinc coating shall be applied in a manner and thickness quality conforming to ASTM A 123. In any case where zinc coating becomes damaged, the damaged area shall be re-galvanized with a suitable low-melting zinc base alloy as recommended by the American Hot-Dip Galvanizers Association. One coat of a vinyl wash primer followed by red top coat shall be applied over the zinc coat. All painting shall conform to Section 811 and 1008 of the Louisiana Standard Specifications for Roads and Bridges, 2000 edition.

6.4 Installation

The settlement plate must be placed and surveyed prior to placement of marsh fill material. The settlement plate shall be surveyed as specified in TS-3 Surveys. The settlement plate shall be installed within the marsh fill template at the location shown on the Plans or as directed by the Owner and Engineer. The settlement plate must be placed such that the vertical pipe conforms to a vertical plumb standard of no more than 10.5º from true vertical. The settlement plate shall also be marked with brightly colored flagging or reflector tape. The Contractor shall exercise care when placing any construction materials in the vicinity of the settlement plate. Any damaged settlement plate shall be replaced by the Contractor at no expense to the Owner. Damaged settlement plates are defined as plates which would not accurately represent elevation of the project feature in question as determined by the Owner and Engineer. Leveling of the plate bed shall be accomplished by removing the minimum amount of earth or debris necessary to produce an even foundation and in such manner that the density of the plate bed will remain at the same density as the undisturbed adjacent ground. Leveling of the plate bed by the addition of fill will not be permitted.

6.5 Maintenance

The Contractor shall maintain the settlement plate until the Work is completed. Any damaged settlement plate shall be repaired or replaced by the Contractor at no expense to the Owner. After marsh fill elevation has been accepted and prior to demobilization, the 3" schedule 40 pipe shall be detached from the 4'x4'x1/4" plate. The plate shall remain in place, beneath the in-place marsh fill material.

6.6 Measurement, Payment, and Acceptance

Payment for this item will be made at the contract unit price per each for Bid Item No. 12, "Settlement Plate". Price and payment shall constitute full compensation for furnishing all labor, materials, and equipment for construction and maintenance of all required settlement plates and performing all work specified herein. No payment shall be made for settlement plates that are rejected or damaged due to fault or negligence by the Contractor.

## TS-7 LIGHTED AIDS TO NAVIGATION

7.1 General Description

Lighted aids to navigation shall be deployed prior to commencement of any dredging operations. Lighted aids to navigation are required to maintain safe working conditions for construction in navigable waters. The Contractor shall provide, install, maintain, and remove lighted aids as specified herein at no direct pay. Any damage to existing U.S. Coast Guard or private navigation aids caused by the Contractor shall be repaired by the Contractor to U.S. Coast Guard standards at no expense to the Owner.

7.2 Installation

Lighted dredging aids to navigation shall be installed prior to any dredging equipment entering the borrow area or placing any pipeline from the borrow area to the fill area. The aids to navigation shall be lighted for 24-hour operation. Light characteristics for the aids shall be flashing yellow. If buoys are used they shall be yellow with reflective international orange square patches or stripes. If pile structures are used, they shall display yellow dayboards with reflective international orange borders. The aids may be lettered. The Contractor shall notify the U.S. Coast Guard in accordance with subparagraph "Notice of Intent to Dredge". The notification shall contain maps and descriptions of lighted aids for inclusion in the Notice to Mariners.

7.3 Operation and Maintenance

The Contractor shall operate and maintain all the lighted aids. Should lighted dredging aids to navigation leave positioned locations, the Contractor shall reposition within 24 hours.

7.4 Removal

The Contractor shall remove all lighted dredging aids to navigation, piles, chains, anchors, etc. from the project area upon completion of this project.

## TS-8 STAND-BY TIME

8.1 Scope

*Should the Contractor be required to cease dredging under this contract due to any act or order of the USACE or any local, state, or federal government agency, according to the provisions of GP-52, a daily stand-by pay item shall be implemented in accordance with this Technical Specification while the hydraulic dredge is located between Mississippi River Miles sixty-three (63) and sixty-five (65).*

8.2 Measurement and Payment

*The Contractor may request compensation for "Stand-by Time" measured in days at the rate given in the negotiated schedule of bid items. The start time of said request shall begin at the time the Contractor is ordered to stop dredging due to any act or order of any local, state, or federal government agency. The end time of said request shall be until such time that said agency allows work to resume.*

*Bid Item No. 14, "Stand-by Time", shall be implemented at a rate per Dredge Day stated by the Contractor and approved by the Engineer in the negotiated schedule of bid items. The rate for "Stand-by Time" may be applied for the number of Dredge Days the Contractor is required to cease Work that total up to five percent (5%) of the total change order amount excluding Bid Item No. 14. In the event "Stand-by Time" is deemed appropriate on more than one oc-*

*casion, the total cost of "Stand-by Time" will only be paid for up to a total of five percent (5%) of the total change order amount excluding Bid Item No. 14.*

*Additional time for completion will be allowed at a rate of one (1) day for each Dredge Day of "Stand-by Time". One "Dredge Day" shall be defined as twenty-four (24) consecutive hours beginning at the time the Contractor is required to cease Work.*

*If "Stand-by Time" awarded cost totals five percent (5%) of the total change order cost excluding Bid Item No. 14, the Contractor shall notify the Engineer in writing of his intention to continue to stand-by at no additional cost to the Owner until such time the Contractor is allowed to resume or request that the marsh creation area be accepted based on dredging completed to date.*

*If the Contractor elects to request acceptance based on dredging completed to date, the Contractor shall grade the fill area to meet the target elevation as close as possible. The Contractor shall provide process surveys at that time and twenty-one (21) days later per TS-3 Surveys. All other work shall be performed as if the marsh creation area was completed to the required elevations. Acceptance will be based on the surveyed marsh fill elevation as per TS-3 Surveys, estimated to the nearest +0.1'. Payment for marsh creation will be made at the contract unit price per cubic yard of fill placed in the marsh fill area shown on the Plans for Bid Item No. 11, "Marsh Creation Fill". Payment will be made per cubic yard up to the maximum elevation of +2.3' NAVD 88.*

# APPENDIX A: BID PROPOSAL ATTACHMENTS

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM
# BAYOU DUPONT PROJECT (BA-39)

## BID PROPOSAL ATTACHMENT A - PLANT AND EQUIPMENT SCHEDULE

**EQUIPMENT CATEGORY:**_____

| Type | Capacity | Manufacturer | Age & Condition | Location |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**EQUIPMENT CATEGORY:**_____

| Type | Capacity | Manufacturer | Age & Condition | Location |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**EQUIPMENT CATEGORY:**_____

| Type | Capacity | Manufacturer | Age & Condition | Location |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

**NOTE: The Plant and Equipment Schedule is Mandatory. The Plant and Equipment Schedule is for information purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal. The Bidder may only omit information that he/she considers proprietary. Provide separate table for each category of equipment including dredging, excavating, material handling, pile driving, barges, loading, grading, earthworks, trucking, etc. Specify production rate of equipment. Use separate line for each major item. Use additional pages if necessary.**

**(THIS PAGE SHOULD BE COMPLETED AND RETURNED WITH CONTRACTOR BID)**

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM
# BAYOU DUPONT PROJECT (BA-39)

## BID PROPOSAL ATTACHMENT B – DREDGE DATA SHEETS

NOTE: All Bids to be accompanied by *Dredge Data Sheets.* The Contractor shall complete the FOLLOWING data sheets for the Equipment proposed to perform the Work under this Contract. Separate *Dredge Data Sheets* for each dredge are required if the Contractor Plans to utilize multiple dredges. The dredge data sheet submittal shall constitute a certification that the described Equipment is available to, and under control of, the Contractor.

The Dredge Data Sheet is **MANDATORY**. The Dredge Data Sheet is for informational purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal. The Bidder may only omit data or information that he/she considers proprietary.

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM
# BAYOU DUPONT PROJECT (BA-39)

**DREDGE DATA SHEET** (Sheet 1 of 2)

**DREDGE INFORMATION:**

Owned:_____ Leased: _____ Leased From: _____
Dredge name: _____
Minimum width of channel in which dredge can successfully operate and make a 180 degree turn:_____
Maximum draft of dredge: _____
Loaded freeboard: _____
Minimum depth in which the dredge can successfully operate: _____
Depth range to which dredge will dig:
Maximum: _____, Minimum: _____
Maximum effective dredge swing, in degrees: _____
Length of dredge spuds: _____
Length and beam of dredge hull: _____
Length of dredge ladder: _____
Length of suction and boat lines: _____
Inside diameter of pump discharge: _____
Inside diameter of pump suction inlet: _____
Suction lift (Elevation of main dredge pump relative to the water surface level): _____
Diameter of pump impeller eye: _____
Outside diameter of pump impeller: _____
Brake horsepower and corresponding engine RPMs (during dredging operations) applied to pump impeller at rated drive of the prime mover, during dredging operations: _____
_____
Cutterhead type and diameter: _____
Brake horsepower applied to cutterhead during dredging operations: _____
Pump engine(s) horsepower and corresponding RPM: _____
_____
Completion date of each dredge pump engine re-build: _____
_____
Type(s) of production rate monitoring Equipment on-board the dredge (measuring cy/hr of Material dredged):
_____
_____
Type of method to control discharge outflow rates near containment dikes:
_____
_____

**(THIS PAGE MUST BE COMPLETED AND RETURNED)**

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM
# BAYOU DUPONT PROJECT (BA-39)

**DREDGE DATA SHEET** (Sheet 2 of 2)

**THE DREDGE MAY BE INSPECTED AT (List location of Equipment):**

_____
_____
_____
_____
_____

**DREDGE OWNER INFORMATION:**

Firm name: _____
Point of contact: _____
Title: _____
Business address: _____
Street: _____
City: _____
Parish/County: _____
State: _____ Zip+4: _____
Telephone no. (_____)_____ Facsimile no. (_____)_____

**(THIS PAGE MUST BE COMPLETED AND RETURNED)**

# MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM
# BAYOU DUPONT PROJECT (BA-39)

## BID PROPOSAL ATTACHMENT C – STATEMENT OF EXPERIENCE

The Bidder is required to state below what work of similar magnitude is a judge of his/her experience, skill and business standing and of his/her ability to conduct the work as completely and as rapidly as required under the terms of the contract. Under Reference, please provide name, address, contact person, phone number, and email address.

| PROJECT AND LOCATION | REFERENCE |
|---|---|
| | |
| | |
| | |
| | |
| | |

**NOTE: The Statement of Experience is Mandatory. The Statement of Experience is for information purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal.**

**(THIS PAGE SHOULD BE COMPLETED AND RETURNED WITH CONTRACTOR BID)**

## APPENDIX B: INTERPRETATION OR CLARIFICATION BY ENGINEER FORM

Mississippi River Sediment Delivery System – Bayou Dupont (BA-39)
Interpretation or Clarification by Engineer
Number ( ____ )

DATE:

SUBJECT:

SUMMARY OF MATTER BY CONTRACTOR

INTERPRETATION OR CLARIFICATION OF MATTER BY ENGINEER

# APPENDIX C: LAND RIGHTS MEMORANDUM

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

# State of Louisiana

## DEPARTMENT OF NATURAL RESOURCES
## OFFICE OF COASTAL RESTORATION AND MANAGEMENT

March 3, 2008

Memorandum

To: Brad Miller, CED Project Manager

From: Joyce M. Montgomery, CRD Land Specialist III

RE: Landrights Completion
Mississippi River Sediment Delivery System-Bayou Dupont Project BA-39

The CRD Land Section has completed all landrights necessary to proceed to construction contracting on the above referenced project. The following information is being transmitted via this memorandum, or has already been forwarded to you under separate memorandum:

| | |
|---|---|
| ___X___ *Servitude Agreement(s)* | _____ *Mineral Operations Agreement(s)* |
| ___X___ *Pipeline Agreement(s)* | _____ *Grant of Particular Use* |
| _____ *Oil/Gas Operator Agreement(s)* | ___X___ *State Land Office Letter of No Objection* |
| _____ *Memorandum(s) of Agreement* | _____ *Assignment of Rights to Federal Sponsor* |
| ___X___ *CWPPRA Section 303(e) approval* | ___X___ *Landrights Certification Letter* |
| _____ *Right(s) of Entry for Construction* | ___X___ *Surface Lease* |

Please note the following information that will need to be included in the contract specifications and/or for future monitoring, operations and maintenance site visits:

I. River Rest L.L.C.:

a. The right to construct, operate, maintain and monitor structures or improvements to enhance the deposition of sediment upon said Lands;

b. The right to plant or cause the growth of vegetation in, on, over and across said Lands, including the right to nourish, replenish and maintain said vegetation;

c. The right to deposit dredged sediment and/or fill material on, over and across said Lands by either natural or mechanical means, including the right to alter land and/or water contours and undertake management practices to enhance or extend the beneficial use of dredged or sediment deposition for wetland creation, restoration and enhancement;

**Coastal Engineering Division**
Post Office Box 44027 • Baton Rouge, Louisiana 70804-4027 • 617 North Third Street • 10th Floor • Baton Rouge, Louisiana 70802
(225) 342-7308 • Fax (225) 342-9417 • http://www.dnr.state.la.us
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d. The right to construct and maintain fencing material to encourage the deposition of sand/sediment on said Lands;

e. The right to relocate, alter, replace or remove appropriate pipelines, utility lines, facilities or other structures in, on, under, and across said Lands;

f. The right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by STATE;

g. The right to alter or remove structures and/or appurtenances constructed on said Lands by STATE pursuant to the Project;

h. The right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality;

i. The right to enter and traverse said Lands to access Project features located on adjacent Lands;

j. The right to make modifications to the above, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project.

**II. Plains Pipeline, L.P.:**

a. STATE agrees not to unreasonably interfere with the rights of PLAINS under the Pipeline Rights-of-Way;

b. STATE agrees to notify PLAINS at least 72 hours in advance of any construction work within or adjacent to the pipeline ROW. Notice will given in person or by telephone to Mr. Rusty Cavalier, 1901 Engineers Road, Belle Chasse, LA 70037, (504) 393-6280;

c. PLAINS hereby consents to the construction, maintenance and monitoring of the Project pursuant to the plans and specifications contained in the Project within twenty five feet (25') of or adjacent to the Pipeline Rights of Way and adjacent to the pipeline;

d. PLAINS agrees that, for ordinary inspection, maintenance and repair activities within the Pipeline Right-of-Way, no structures, improvements, constructions, and/or appurtenances constructed by STATE shall be adjusted, removed and/or interfered with by PLAINS or anyone holding rights by, through or under said Lands, without the prior coordination and approval of STATE, which approval shall not be unreasonably withheld or delayed;

e. PLAINS agrees that, for emergency activities within the Pipeline Right-of-Way that necessitate immediate action, PLAINS shall notify STATE of such emergency as soon as possible,

but no later than forty-eight (48) hours after Plains is made aware of the event necessitating the action. Notice to STATE may be given in person or by telephone to Brad Miller, CED Project Manager, at (225) 342-4122, 617 North 3rd Street, 10th Floor, Baton Rouge, Louisiana 70802; and

f. Company (Tel: 504-393-6280) and the Louisiana Underground Protection, Inc. (Tel: 1-800-272-3020) shall be contacted at least two working days prior to any construction activity near the pipeline. Company will arrange to have the pipeline location (and depth, if specified) staked and shall be given the opportunity to have an inspector on site during all construction activities. **It is the responsibility of the third party to have the pipeline location added to the construction drawings.**

g. The contractor shall not excavate within the pipeline right-of-way for any reason without a representative of Company on site giving permission.

h. The contractor shall not be permitted to transport construction materials or equipment longitudinally over the pipeline.

i. No track type construction equipment shall be permitted to pivot or turn directly over top of the pipeline.

j. Contractors are cautioned that excavation which exposes, or significantly reduces the cover over a Company pipeline may have to be delayed to meet reduced operating pressure requirements.

k. The contractor is responsible for taking all necessary safety precautions and will be held responsible for any damage caused to the pipeline or property as a result of his work.

l. A Plains representative will be onsite while work is performed in the vicinity of the Plains pipeline.

m. There will be no excavation within 25 feet of the pipeline.

n. Plans and specifications shall be provided to Plains District Manager, Rusty Cavalier, for review and approval.

**III. Livaudais et al. Servitude IV.**

a. The right to construct, operate, maintain and monitor structures or improvements to enhance the deposition of sediment upon said Lands;

b. The right to plant or cause the growth of vegetation in, on, over and across said Lands, including the right to nourish, replenish and maintain said vegetation;

c. The right to deposit dredged sediment and/or fill material on, over and across said Lands by either natural or mechanical means, including the right to alter land and/or water contours and undertake management practices to enhance or extend the beneficial use of dredged or sediment deposition for wetland creation, restoration and enhancement;

d. The right to construct and maintain fencing material to encourage the deposition of sand/sediment on said Lands;

e. The right to relocate, alter, replace or remove appropriate pipelines, utility lines, facilities or other structures in, on, under, and across said Lands;

f. The right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by STATE;

g. The right to alter or remove structures and/or appurtenances constructed on said Lands by STATE pursuant to the Project;

h. The right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality;

i. The right to enter and traverse said Lands to access Project features located on adjacent Lands;

j. The right to make modifications to the above, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project.

k. STATE agrees to give reasonable notice to GRANTOR prior to initiation of access to the said Lands which is required to implement, construct, operate, modify, monitor, and maintain the Project.

**IV. Shell Pipeline Company LP**

a. The DNR agrees not to unreasonably interfere with the rights of SPLC under the Pipeline Right-of-Way.

b. A minimum of forty-eight hours prior to commencing any activities across or within 25 feet of either side of SPLC's pipeline, DNR or its contractor will notify SPLC's Houma, Maintenance Supervisor, Kevin Arceneaux, at telephone number 985-873-3429 (office) or 985-790-2868 (cell) so Mr. Arceneaux or his designated alternate can be present during the operations.

c. SPLC hereby consents to the construction of the Project pursuant to the plans and specifications.

d. SPLC agrees that, for ordinary inspection, maintenance and repair activities within the Pipeline Right-of-Way, no structures, improvements, constructions, and/or appurtenances constructed by the DNR pursuant to the Project shall be adjusted, removed and/or interfered with by SPLC or anyone holding rights by, through or under SPLC, without the prior coordination and approval of the DNR, which approval shall not be unreasonably withheld or delayed.

e. SPLC agrees that, for emergency activities within the Pipeline Right-of-Way that necessitate immediate action, SPLC shall notify the State of such emergency as soon as possible, but no later than twenty-four (24) hours after SPLC is made aware of the event necessitating the action. Notice to the DNR may be given in person or by telephone to Brad Miller, Project Manager, Phone 225-342-4122, P. O. Box 44027, Baton Rouge, LA 70804-4027.

f. DNR, its successors, assigns or transferees shall be responsible for repair or replacement of any damage to existing pipeline markers and/or signs, test leads, vent pipes, any other associated pipeline apparatus (including the bulkheads), any fences, roads, bridges, or other facilities located on said Lands which might be damaged by DNR, its successors, assigns or transferees.

g. SPLC agrees that, DNR has the right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by DNR, so long as the signs or notices do not interfere with SPLC's ability to inspect and maintain its pipeline. The placement of any warning signs and notices is subject to the notification requirement contained in Item 2 above.

h. SPLC agrees that DNR has the right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by DNR to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality.

i. This Agreement shall become effective upon the date of the signature of STATE, and shall remain in effect for a term of twenty-five (25) years from the date that construction begins unless sooner released by STATE.

**V. Entergy Louisiana LLC**

a. It is understood and agreed that the wires supported by structures on the Entergy right of way are conductors of, and at all times have in them, high voltage electricity. No person, or object in contact with a person, may touch or be near to said wires or other fixtures on said structures, because to do so or to permit such would be dangerous to the life of the party so doing, as well as anyone else in the area where such occurred. DNR's contractor agrees to inform each and every individual of such facts before such party enters upon any part of the easement area above described during the time such work is being prepared, done or completed, or any equipment moved to, upon or from said property and Entergy shall be indemnified by DNR's contractor from any injury or death resulting there from in accordance with the terms of the indemnity agreement set forth in this letter.

b. The area within Entergy's right of way is to be used only for the purposes disclosed to Entergy, and no buildings or components of buildings are to be located or protruding into the right-of-way.

c. Any work performed in this area must be done in accordance with all NESC (National Electric Safety Code) requirements concerning clearances from energized facilities, grounding of any installations and any other applicable code requirements.

d. All OSHA regulations must be met and maintained during the construction, operation, and maintenance of all facilities within the right-of-way.

e. It is also agreed and understood that DNR's contractor will at all times indemnify and hold harmless Entergy from and against any and all claims, demands, causes of action, judgments, liabilities and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries and death to employees of Entergy and your employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of your rights hereunder, or to your presence upon or use of Entergy premises above referred to, or to the use or existence of your facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim, or cause of action is caused by the negligence of Entergy, its employees, agents or representatives.

f. All equipment used on the property shall have a maximum height not to exceed NESC clearances allowed, or shall be provided with guard chains limiting moveable parts of the equipment to that maximum height.

g. No fencing, tents, jack-up lighting, or light poles of any kind are permitted inside Entergy's right-of-way at any time.

h. Entergy will have full access and use of the right-of-way at all times for any work projects or maintenance and shall not be responsible for any damage to the proposed pipeline crossing our right of way unless caused by the negligence of Entergy, its employees, agents or representatives.

i. Entergy must approve any additional improvements to the right-of-way area.

j. Upon termination of the use of the Entergy Right-of-Way, the contractors shall return the property to as near as practical to its pre-use condition.

k. Prior to exercising the rights of access granted herein, DNR shall provide three (3) days' prior written notice to Entergy Services Inc. – Senior Right of Way Agent, Entergy Louisiana LLC., 1000 Harimaw Court West , Mail Unit L-HAR_A, Metairie, LA 70001 of DNR's planned use.

l. This agreement will expire one (1) year from the day of first access for construction.

**VI. ConocoPhillips Company**

a. The right to construct, operate, maintain and monitor a dredge pipeline, over and across said Lands, including the right to cross under Ravenna Road and over other dirt roads located on said lands and shown on Exhibit A;

b. The right to construct and maintain fencing material on said Lands;

c. The right to relocate, alter, replace or remove appropriate pipelines, utility lines, facilities or other structures in, on, under, and across said Lands;

d. The right to post warning signs or notices on or near appropriate Project features on said Lands, as may be deemed necessary by STATE;

e. The right to alter or remove structures and/or appurtenances constructed on said Lands by STATE pursuant to the Project;

f. The right to enter said Lands for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality;

g. The right to enter and traverse said Lands to access Project features located on adjacent Lands;

h. The right to make modifications to the above, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project;

j. The right to construct gravel ramps comprised of rock and earthen material to provide access across the dredge pipeline;

k. The right to install culverts where necessary for the pipe to be placed under the Ravenna Road;

l. The right to cross over the 6" Ethanol pipeline on the surface at the location shown on Exhibit A.

**VII. Plaquemines Parish Government**

a. The right to permanently place a culvert under the railroad, under LA Hwy. 23 and under the Plaquemines Parish waterline; and

b. The right to temporarily locate a dredge pipeline from the Mississippi River westward over the levee, through the culvert under the railroad, under the LA Hwy. 23, under the Plaquemines Parish waterline and across PPG Property shown on Exhibit A, but only under the condition that STATE obtains prior permission from any lessee and owner of said levee, railroad, LA Hwy. 23 and the waterline, and further provided that STATE indemnifies and holds harmless PPG from and against all costs, expenses and damages of any type as a result of STATE's operations; and

c. The right to construct, locate, maintain and service required monitoring devices and equipment on PPG Property; and

d. The right to post warning signs or notices on or near appropriate Project features on PPG Property, as may be deemed necessary by STATE; and

e. The right to alter or remove Project features and/or appurtenances constructed on PPG Property by STATE pursuant to the Project; and

f. The right to enter PPG Property for the purpose(s) of conducting surveys, inspections and investigations required by STATE to evaluate the effectiveness of the Project and Project features, including maintaining/improving wetland and/or restored land quantity and quality; and

g. The right to enter and traverse PPG Property to access Project features located on adjacent Lands; and

h. The right to make modifications to the above, but only insofar as changes pertain to materials for Project features and minor changes to project feature locations, as may be deemed necessary by STATE to fully and properly implement and maintain the Project, but only with PPG's prior written consent.

**VIII. Don Delesdernier Surface Lease Access Agreement**

a. DNR will construct four gravel ramps composed of rock and/or earthen material over the dredge pipeline for cattle access to water and construct a gravel ramp over a dirt road, at or near locations shown on Exhibit A, for continuous access to leased properties for livestock.

b. It is also agreed and understood that DNR's contractor will at all times indemnify and hold harmless Lessee from and against any and all claims, demands, causes of action, judgments, liabilities and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries and death to employees of Lessee and your employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of your rights hereunder, or to your presence upon or use of Lessee's lease above referred to, or to the use or existence of your facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim, or cause of action is caused by the negligence of Lessee, its employees, agents or representatives.

c. Lessee will have full access and use of the Lease at all times for any work projects or maintenance and shall not be responsible for any damage to the proposed pipeline crossing our right of way.

d. Upon termination of the use of the Lease, the contractors shall return the property to as near as practical to its pre-use condition.

e. Prior to exercising the rights of access granted herein, DNR shall provide three (3) days prior written notice to Donald Delesdernier, 504-912-9120, 17487 Hwy. 23, Port Sulphur, LA, 70083-2367.

f. This agreement will expire one (1) year from the day of first access for construction.

Provided herein is contact information for landowners within the designated project and the project feature(s) located on their property, including monitoring stations:

I. Mr. Michael M. Bush
River Rest LLC
820 Fairfield Ave
Gretna, LA 70056
Bus: (504) 392-1232
E-mail: mmb1111@bellsouth.net

II. Mr. Rusty Cavalier
District Manager
Plains Pipeline L P
1901 Engineers Road
Belle Chasse, LA 70037
Bus: (504) 393-6282
Bus Fax: (504) 392-6601
E-mail: rjcavalier@paalp.com

III. Mr. Gatien J. Livaudais
4626 East St. Bernard Hwy.
Meraux, LA 70075
Bus: (504) 277-7838
Home: (504) 439-9135
E-mail: rlivaudais@aol.com

IV. Ms. Jamie Honses
Shell Pipeline Company LP
One Shell Square, #4146
701 Poydras Street
New Orleans, LA 70139
Bus: (504) 728-4340
E-mail: Jamie.Honses@Shell.com

V. Mr. Joe Giammalva
Senior Right of Way Agent
Entergy Louisiana LLC
1000 Harimaw Court West
Mail Unit L-HAR_A
Metairie, LA 70001
Bus.: (504) 219-4207
email: JGIAMMA@entergy.com

VI. Mr. Randy Borne
ConocoPhillips Company
15551 Hwy. 23
Belle Chasse, LA 70037
Bus: (504) 415-8091

VII. Ms. Albertine Kimble
La. Coastal Program Manager
Plaquemines Parish Government
8056 Hwy 23, Suite 308
Belle Chasse, LA 70037
Bus.: (504) 392-6690
email: Albertine_kimble@plaqueminesparish.com

VIII. Estate of Don Delesdernier
c/o Eric Lunden, Attorney
103 Yorke St.
Belle Chasse, LA 70037
Bus: (504) 392-2266
email: welundin@cmaaccess.com

If you have any questions, please contact me as soon as possible. Thank you for your attention to this matter.

c: William Boshart, CRD Project Bological Monitoring Manager
George Boddie, CED Project Construction, Operation & Maintenance Manager
Whitney Thompson, CED Project Engineer

BA-39 Landrights Completion Memo.wpd

## APPENDIX D:  DIRECTIONS TO BOAT LAUNCH

**Directions to private boat launch on West Ravenna Road:**

From New Orleans, take LA 23 south to Alliance. Travel past the Conoco-Phillips Alliance Refinery, and turn right on West Ravenna Road. After approximately two (2) miles, West Ravenna Road will take a 90° turn to the right. Travel approximately 2/10 of a mile and the boat launch is located on the left.

Launch accesses Chenier Traverse Bayou to the north of Marsh Creation Areas 1 and 2 as shown on the Plans.

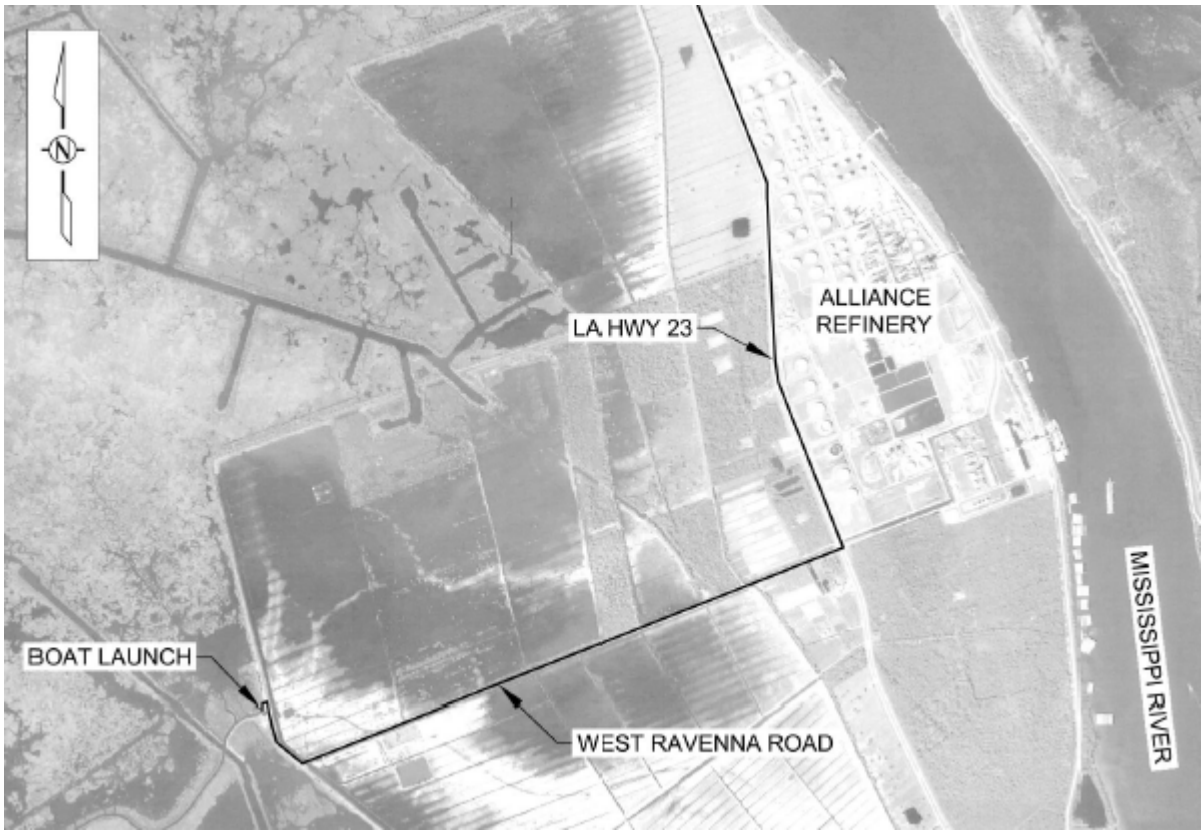
**Landowner Information:**

River Rest LLC
820 Fairfield Avenue
Gretna, LA 70056
504-392-1232
Contact: Mr. Michael M. Bush

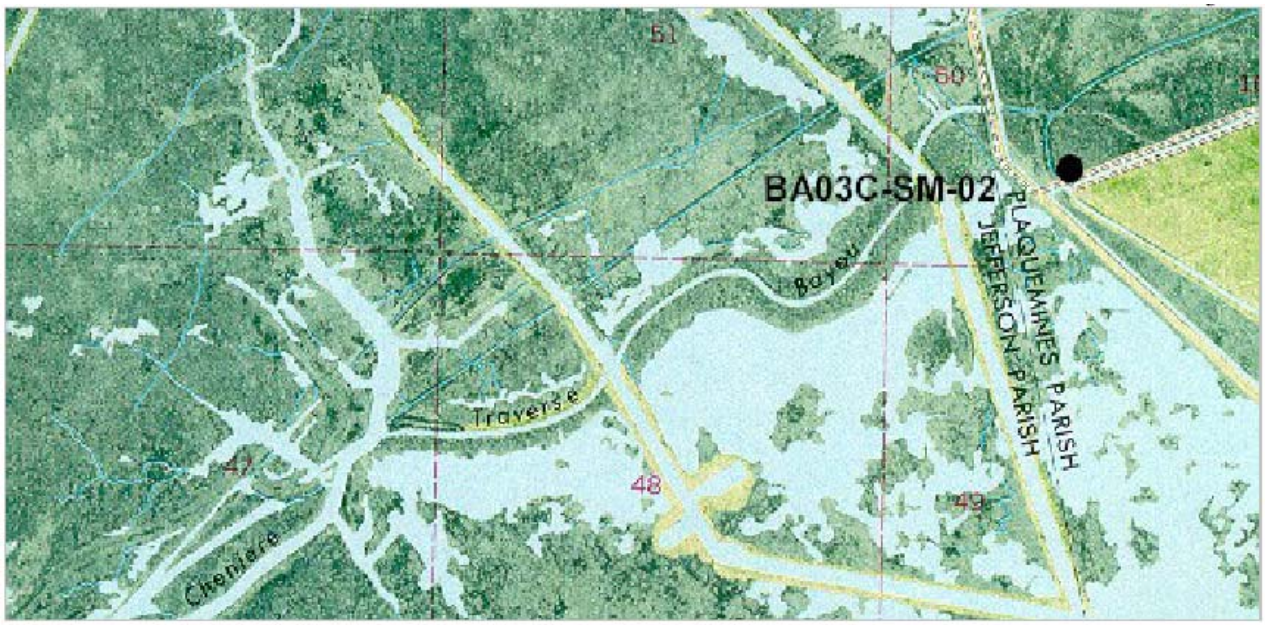
**Coordinates:**

X=3,700,388

Y=424,445



# APPENDIX E: LDNR SECONDARY MONUMENTS




**VICINITY MAP** Scale: 1" = 2000' Reproduced from USC&GS "Lafitte, LA" Quadrangle

## Station Name: "BA03C-SM-02"

**Location:** From La Highway 23 at St. Rosalie, Louisiana, which is located just south of oil storage tanks at Alliance, Louisiana proceed west on West Ravenna Road for approximately 2 miles to the monument on the right.

**Monument Description**: NGS style floating sleeve monument; datum point set on 9/16" stainless steel sectional rods driven 48 feet to refusal, set in sand filled 6" PVC pipe with access cover set in concrete, flush with ground.

**Stamping:** BA03C-SM-02

**Installation Date:** 12/4/02 **Date of Survey:** January 2003

**Monument Established By**: John Chance Land Surveys, Inc.

**For:** *Louisiana Department of Natural Resources, CRD*

**Adjusted NAD 83 Geodetic Position**
Lat. 29° 39' 28.688493" N
Long. 90° 00' 33.422775" W

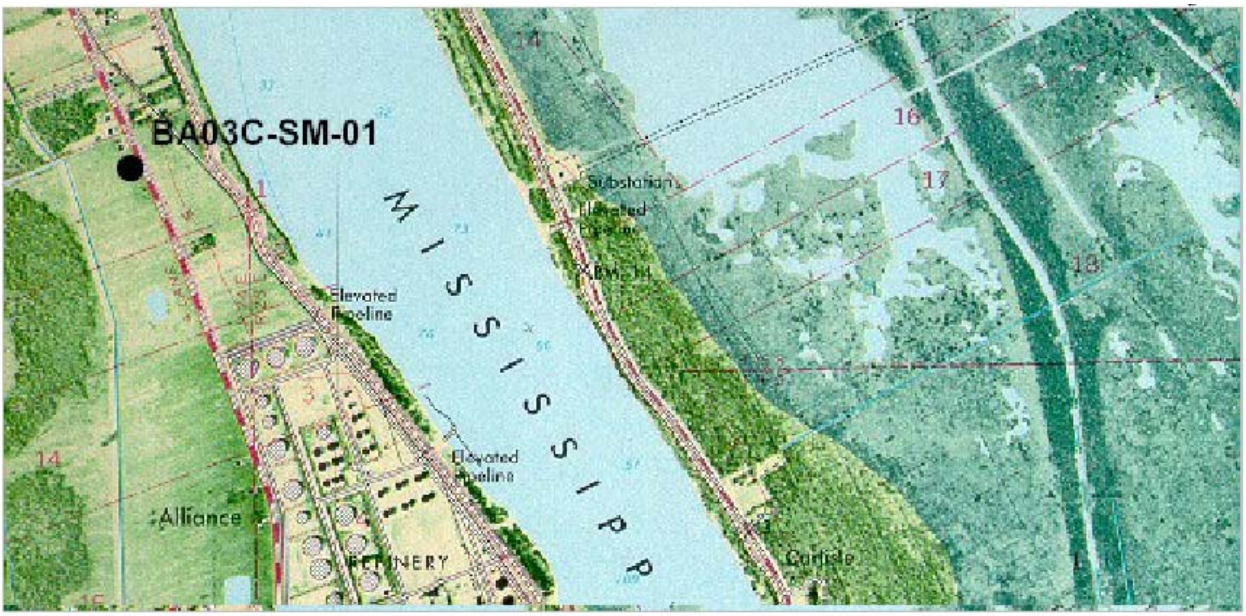
**Adjusted NAD 83 Datum LSZ (1702) Feet**
N= 423,541.03
E= 3,701,364.99

**Adjusted NAVD88 Height**
Elevation = -0.67 feet (-0.203 mtrs)

Geoid99 Height = -25.259 mtrs.
Ellipsoid Height = -25.462 mtrs.

*Adjusted CORS Height = -0.71 ft (-0.216 mtrs)*

*Adjusted Position Established for Louisiana Department of Natural Resources, Coastal Restoration Division*




**VICINITY MAP** Scale: 1" = 2000' Reproduced from USC&GS "Phoenix, LA" Quadrangle

## Station Name: "BA03C-SM-01"

**Location:** From the oil storage tanks in Alliance, Louisiana, proceed north on La Highway 23 for approximately 0.7 miles to the pipelines on the right crossing over the Mississippi River Levee. Turn around and proceed south in the southbound lane of the Highway to the south side of a ring levee and the monument on the right.

**Monument Description**: NGS style floating sleeve monument; datum point set on 9/16" stainless steel sectional rods driven 44 feet to refusal, set in sand filled 6" PVC pipe with access cover set in concrete, flush with ground.

**Stamping:** BA03C-SM-01

**Installation Date:** 12/5/02 **Date of Survey:** January 2003

**Monument Established By**: John Chance Land Surveys, Inc.

**For:** *Louisiana Department of Natural Resources, CRD*

**Adjusted NAD 83 Geodetic Position**
Lat. 29° 41' 58.771906" N
Long. 89° 59' 13.505879" W

**Adjusted NAD 83 Datum LSZ (1702) Feet**
N= 438,782.62
E= 3,708,237.23

**Adjusted NAVD88 Height**
Elevation = 2.80 feet (0.854 mtrs)

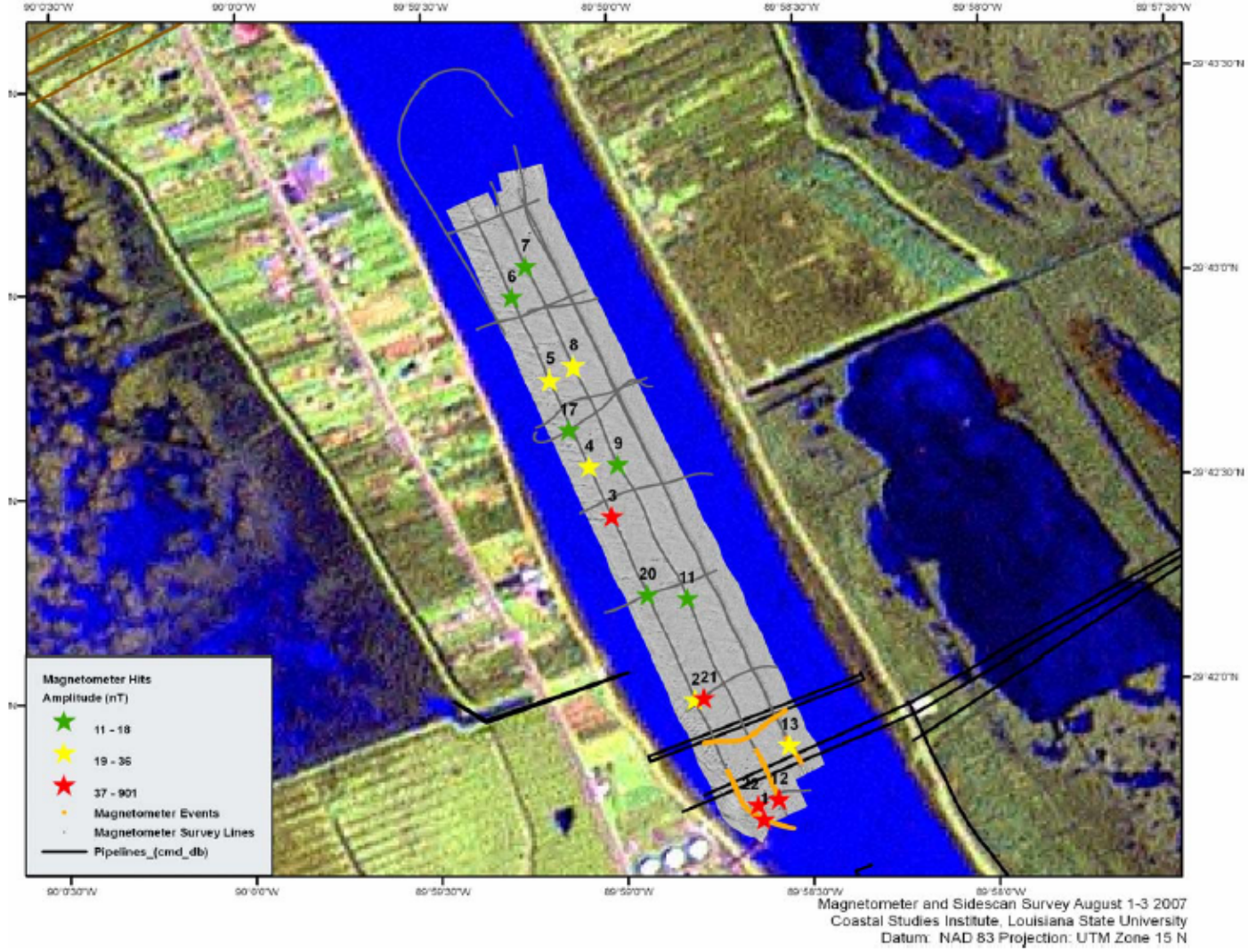
Geoid99 Height = -25.380 mtrs.
Ellipsoid Height = -24.527 mtrs.

*Adjusted CORS Height = 2.76 ft (0.842 mtrs)*

*Adjusted Position Established for Louisiana Department of Natural Resources, Coastal Restoration Division*

# APPENDIX F: 2007 BORROW AREA GEOPHYSICAL AND MAGNETOMETER SURVEY

# Bayou Dupont Magnetometer and Sidescan Survey

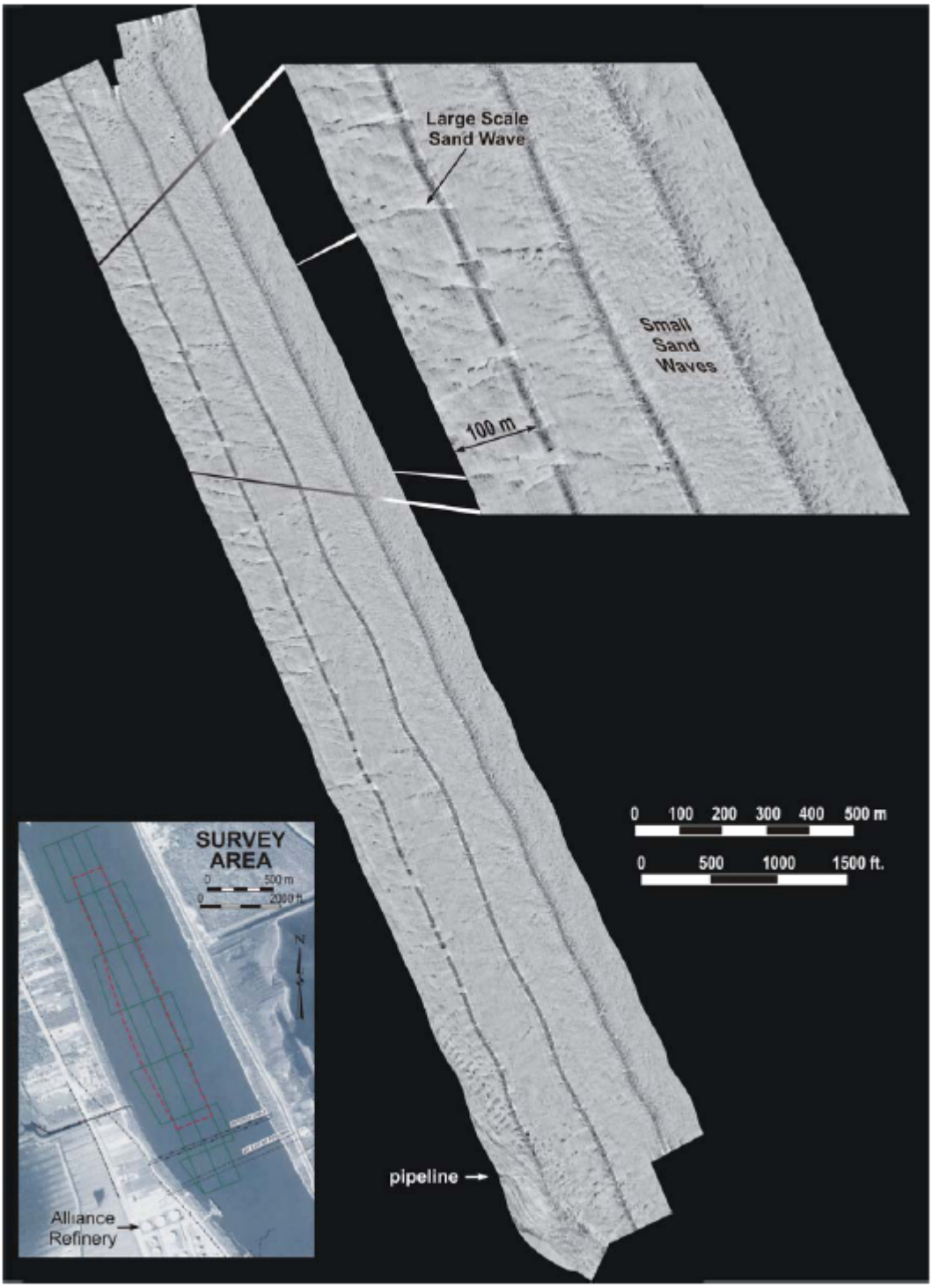



Magnetometer and Sidescan Survey August 1-3 2007
Coastal Studies Institute, Louisiana State University
Datum: NAD 83 Projection: UTM Zone 15 N

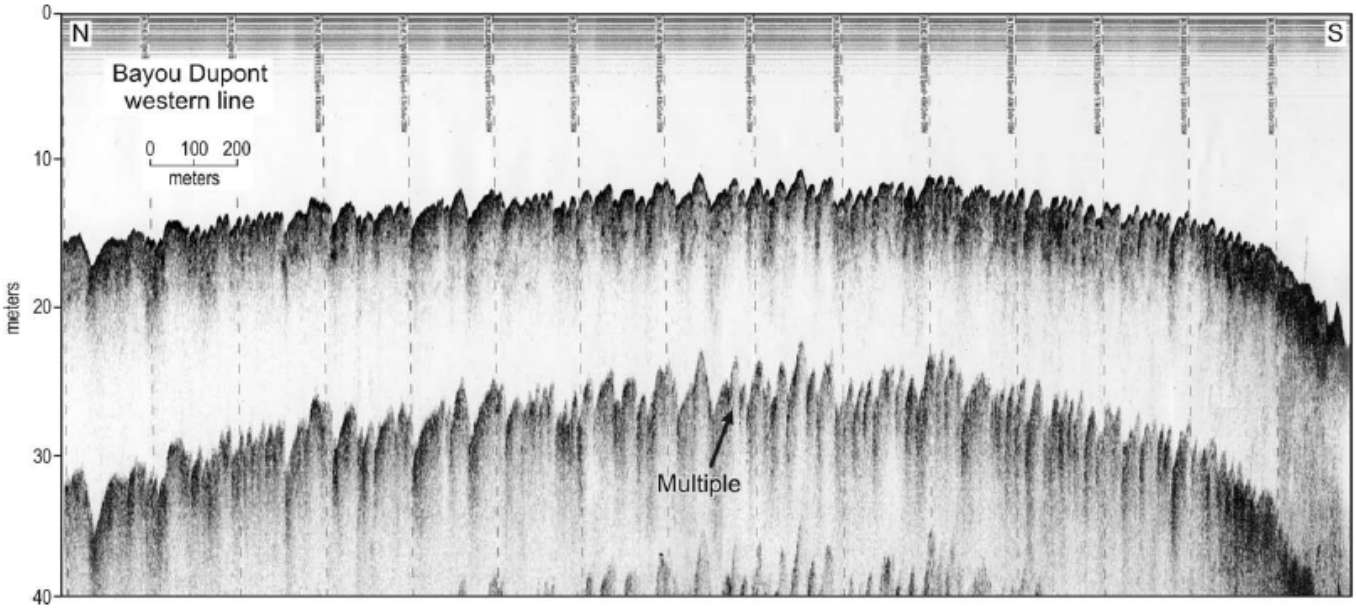
**Magnetometer Anomaly Summary**

| Number | Signature Type | Description | Amplitude Relative (nT) | Counts (Seconds) | Longitude (dec deg) | Latitude (dec deg) | Interpretation |
|---|---|---|---|---|---|---|---|
| 1 | Monopolar | Extra large negative | 900.820 | 160 | -89.9772010 | 29.6945820 | Dock, Pipelines and Cables |
| 2 | Dipolar | Small | 24.310 | 30.6 | -89.9801610 | 29.6995700 | Unknown |
| 3 | Complex | Medium | 37.180 | 48.9 | -89.9836570 | 29.7071140 | Unknown |
| 4 | Monopolar | Medium - | 28.410 | 35.2 | -89.9846110 | 29.7091890 | Unknown |
| 5 | Monopolar | Medium - | 31.110 | 34 | -89.9862830 | 29.7127460 | Unknown |
| 6 | Monopolar | Medium + | 11.110 | 21.5 | -89.9878920 | 29.7161480 | Unknown |
| 7 | Complex | Medium | 13.000 | 28 | -89.9872280 | 29.7174120 | Unknown |
| 8 | Monopolar | Small - | 36.130 | 89.5 | -89.9852070 | 29.7132880 | Unknown |
| 9 | Monopolar | Small + | 17.780 | 39 | -89.9833200 | 29.7092630 | Unknown |
| 10 | Dipolar | Small | 9.120 | 28.7 | -89.9816450 | 29.7059580 | Unknown |
| 11 | Monopolar | Small - | 14.070 | 19.4 | -89.9803660 | 29.7036800 | Unknown |
| 12 | Monopolar | Large - | 107.870 | 80.3 | -89.9765060 | 29.6953950 | Dock, Pipelines and Cables |
| 13 | Monopolar | Medium - | 26.010 | 51 | -89.9759620 | 29.6976100 | Pipelines and Cables |
| 14 | Monopolar | Small - | 6.960 | 35.8 | -89.9777410 | 29.7011480 | Unknown |
| 15 | Monopolar | Small - | 5.740 | 33.6 | -89.9793100 | 29.7042670 | Unknown |
| 16 | Complex | Very Small | 4.610 | 80.2 | -89.9840420 | 29.7137020 | Unknown |
| 17 | Dipolar (Complex) | Medium | 13.730 | 59.4 | -89.9854780 | 29.7107010 | Unknown |
| 18 | Complex | Small - | 9.690 | 25 | -89.9870590 | 29.7104750 | Unknown |
| 19 | Monopolar | Small - | 5.540 | 32 | -89.9861300 | 29.7112740 | Unknown |
| 20 | Monopolar | Small + | 14.820 | 62.4 | -89.9821570 | 29.7038670 | Unknown |
| 21 | Dipole | Large | 78.270 | 48.4 | -89.9797380 | 29.6996410 | Siphon Possible |
| 22 | Monopolar (Incomplete) | Large - | 293.630 | 79.7 | -89.9774350 | 29.6952010 | Dock, Pipelines and Cables |
| 23 | Negative Drift | Small - | 8.680 | 132.9 | -89.9761070 | 29.6990370 | Cable Crossing |
| 24 | Monopolar | Small + | 5.940 | 15.7 | -89.9887680 | 29.7151040 | Unknown |

**Side Scan Sonar Mosaic**



**Chirp Sonar Profile (N-S Survey Line)**



# APPENDIX G: SOIL BORING LOGS

# LOG OF BORING LEGEND

**LJC&A: 07-110**

| | | | |
|---|---|---|---|
| 1. | SPT | = | Standard Penetration Test (4/6/9) where 4 is the blows to seat and 15 is blows (N) for 12 inch penetration. |
| 2. | QU (TSF) | = | Unconsolidated undrained triaxial, one point test<br><br>0.05 @ 0.12 is the compressive strength in tsf which is twice the cohesion and @ means the confining pressure at tsf. Note: tests without @ values following are for unconfined Compression shear tests. |
| 3. | WC (%) | = | In situ water content |
| 4. | Dry Wt. (PCF) | = | The dry unit weight of soil |
| 5. | LL | = | Liquid Limit (%) |
| 6. | PI | = | Plasticity Index (%) |
| 7. | MV(KSF) | = | Miniature vane strength test done in end of sample in the Shelby tube and value is the cohesion in KSF. |

## LOG OF BORING

Project: Bayou Dupont
Plaquemines Parish, Louisiana
Louisiana Department of Natural Resources (2503-05-44)
For: Sigma Consulting Group
Baton Rouge, Louisiana

Boring: B-1B
File: 07-110
Date: 24-May-07
Technician: CAL

Undisturbed Sample
Standard Penetration Test
Classification Sample
(SLS) Slickensided

N 29° 42.099'
W 89° 58.799'
Boring Depth: 98 Feet

| Depth Feet | SAMPLES | | (SPT) Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | Zero = top of casing, set 62 feet of 8 inch casing 74 feet of 4 inch casing; top of casing to water is 7 feet | | | | | | | |
| | | Water surface El. 5.0 feet NAVD 88 (Estimated) | | | | | | | |
| | | Water depth = 51.5 feet | | | | | | | |
| | | Mudline El. -46.5 feet, NAVD 88 | | | | | | | |
| | X | Loose brown sand (SP)<br>6 blows per foot (2/3/3) | 66 | | | | | | |
| 60 | X | Firm brown sand (SP)<br>20 blows per foot (10/11/9) | 61 | | | | | | |
| | X | Firm brown sand (SP)<br>23 blows per foot (9/11/12) | 100 | | | | | | |
| 65 | X | Firm brown sand (SP)<br>20 blows per foot (10/10/10) | 70 | | | | | | |
| | X | Firm gray sand (SP)<br>18 blows per foot (7/9/9) | 72 | | | | | | |
| | X | Firm gray sand (SP)<br>20 blows per foot (5/9/11) | 72 | | | | | | |
| 70 | X | Firm gray sand with clay layer (SP)<br>20 blows per foot (6/8/12) | 100 | | | | | | |
| | X | Very dense gray sand with clay layer, shells, wood, and organic (SP)<br>58 blows per foot (15/32/26) | 70 | | | | | | |
| 75 | X | Very dense gray sand with organic (SP)<br>51 blows per foot (19/27/24) | 80 | | | | | | |
| | X | Firm gray sand (SP)<br>14 blows per foot (5/6/8) | 53 | | | | | | |
| | X | Firm gray sand (SP)<br>14 blows per foot (5/6/8) | 60 | | | | | | |
| 80 | X | Firm gray sand (SP)<br>25 blows per foot (13/12/13) | 100 | | | | | | |
| | X | Firm gray sand (SP)<br>27 blows per foot (13/13/14) | 100 | | | | | | |
| 85 | X | Firm gray sand (SP)<br>34 blows per foot (15/14/20) | 100 | | | | | | |
| | X | Firm gray sand (SP)<br>15 blows per foot (5/6/9) | 90 | | | | | | |
| | X | Firm gray sand (SP)<br>22 blows per foot (10/12/10) | 100 | | | | | | |
| 90 | X | Firm gray sand (SP)<br>25 blows per foot (9/11/14) | 100 | | | | | | |
| | X | Dense gray sand with organic (SP)<br>27 blows per foot (10/13/14) | 100 | | | | | | |
| 95 | X | Dense gray sand with organic (SP)<br>37 blows per foot (11/14/23) | 90 | | | | | | |
| | X | Dense gray sand with organic (SP)<br>46 blows per foot (11/22/24) | 100 | | | | | | |
| 100 | | | | | | | | | |

**LOUIS J. CAPOZZOLI & ASSOCIATES, INC.**
**Geotechnical Engineers**

## LOG OF BORING

Project: Bayou Dupont
Plaquemines Parish, Louisiana
Louisiana Department of Natural Resources (2503-05-44)
For: Sigma Consulting Group
Baton Rouge, Louisiana

Boring: B-2B
File: 07-110
Date: 16-May-07
Technician: CAL

■ Undisturbed Sample
⊠ Standard Penetration Test
⊟ Classification Sample
(SLS) Slickensided

N 29° 42.490'
W 89° 58.992'
Boring Depth: 98 Feet

| Depth Feet | SAMPLES | | (SPT) Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | Zero = top of casing, set 62 feet of 8 inch casing; top of casing to water is 7 feet | | | | | | | |
| | | Water surface El. 5.0 feet NAVD 88 (Estimated) | | | | | | | |
| | | Water depth = 51.0 feet | | | | | | | |
| | | Mudline El. -46.0 feet, NAVD 88 | | | | | | | |
| | ⊠ | Firm brown sand (SP)<br>14 blows per foot (5/6/8) | 44 | | | | | | |
| 60 | ⊠ | Firm brown sand with organic matter (SP)<br>17 blows per foot (8/9/8) | 90 | | | | | | |
| | ⊠ | Firm brown sand (SP)<br>15 blows per foot (4/6/9) | 20 | | | | | | |
| 65 | ⊠ | Firm gray sand with organic matter (SP)<br>23 blows per foot (8/8/15) | 80 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>20 blows per foot (9/10/10) | 55 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>23 blows per foot (9/11/12) | 60 | | | | | | |
| 70 | ⊠ | Firm gray sand (SP)<br>27 blows per foot (13/13/14) | 70 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>27 blows per foot (14/14/13) | 80 | | | | | | |
| 75 | ⊠ | Dense gray sand<br>32 blows per foot (14/15/17) | 80 | | | | | | |
| | ⊠ | Dense gray sand (SP)<br>37 blows per foot (17/18/19) | 100 | | | | | | |
| | ⊠ | Dense gray sand (SP)<br>33 blows per foot (17/17/16) | 100 | | | | | | |
| 80 | ⊠ | Firm gray sand (SP)<br>25 blows per foot (9/13/12) | 70 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>27 blows per foot (14/14/13) | 70 | | | | | | |
| 85 | ⊠ | Firm gray sand (SP)<br>29 blows per foot (12/14/15) | 70 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>20 blows per foot (9/9/11) | 55 | | | | | | |
| | ⊠ | Firm gray sand (SP)<br>13 blows per foot (7/8/5) | 55 | | | | | | |
| 90 | ⊠ | Firm gray sand with organic matter (SP)<br>22 blows per foot (11/11/11) | 80 | | | | | | |
| | ⊠ | Firm gray sand with organic matter (SP)<br>29 blows per foot (13/16/13) | 100 | | | | | | |
| 95 | ⊠ | Very dense gray sand (SP)<br>50 blows per foot (18/24/26) | 90 | | | | | | |
| | ⊠ | Very dense gray sand (SP)<br>56 blows per foot (19/27/29) | 60 | | | | | | |
| 100 | | | | | | | | | |

**LOUIS J. CAPOZZOLI & ASSOCIATES, INC.**
**Geotechnical Engineers**

## LOG OF BORING

Project: Bayou Dupont
Plaquemines Parish, Louisiana
Louisiana Department of Natural Resources (2503-05-44)
For: Sigma Consulting Group
Baton Rouge, Louisiana

Boring: B-3B
File: 07-110
Date: 17-May-07
Technician: CAL

Undisturbed Sample
Standard Penetration Test
Classification Sample
(SLS) Slickensided

N 29° 42.950'
W 89° 59.203'
Boring Depth: 104 Feet

| Depth Feet | SAMPLES | | (SPT) Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | Zero = top of casing, set 64 feet of 8 inch casing; top of casing to water is 7 feet | | | | | | | |
| | | Water surface El. 5.0 feet NAVD 88 (Estimated) | | | | | | | |
| | | Water depth = 57.0 feet | | | | | | | |
| | | Mudline El. -52.0 feet, NAVD 88 | | | | | | | |
| 65 | X | Loose brown sand with wood (SP)<br>7 blows per foot (3/3/4) | 60 | | | | | | |
| | X | Very loose brown sand (SP)<br>3 blows per foot (2/2/1) | 75 | | | | | | |
| | X | Firm gray sand with organic matter (SP)<br>10 blows per foot (5/5/5) | 80 | | | | | | |
| 70 | X | Firm gray sand (SP)<br>10 blows per foot (3/4/6) | 90 | | | | | | |
| | X | Firm gray sand (SP)<br>15 blows per foot (8/7/8) | 90 | | | | | | |
| 75 | X | Firm gray sand (SP)<br>18 blows per foot (6/7/11) | 90 | | | | | | |
| | X | Firm gray sand (SP)<br>26 blows per foot (12/12/14) | 100 | | | | | | |
| | X | Firm gray sand (SP)<br>22 blows per foot (9/11/11) | 60 | | | | | | |
| 80 | X | Firm gray sand (SP)<br>22 blows per foot (10/11/11) | 90 | | | | | | |
| | X | Firm gray sand (SP)<br>25 blows per foot (13/12/13) | 80 | | | | | | |
| 85 | X | Dense gray sand (SP)<br>32 blows per foot (16/15/17) | 75 | | | | | | |
| | X | Dense gray sand (SP)<br>37 blows per foot (17/17/20) | 60 | | | | | | |
| | X | Dense gray sand (SP)<br>32 blows per foot (16/15/17) | 50 | | | | | | |
| 90 | X | Firm gray sand (SP)<br>29 blows per foot (9/13/16) | 80 | | | | | | |
| | X | Firm gray sand (SP)<br>27 blows per foot (15/14/13) | 80 | | | | | | |
| 95 | X | Dense gray sand (SP)<br>42 blows per foot (18/20/22) | 60 | | | | | | |
| | X | Dense gray sand (SP)<br>49 blows per foot (22/23/26) | 50 | | | | | | |
| | X | Very dense gray sand (SP)<br>56 blows per foot (20/27/29) | 50 | | | | | | |
| 100 | X | Very dense gray sand (SP)<br>63 blows per foot (20/31/32) | 55 | | | | | | |
| | X | Very dense gray sand (SP)<br>63 blows per foot (30/32/31) | 80 | | | | | | |
| 105 | | | | | | | | | |

**LOUIS J. CAPOZZOLI & ASSOCIATES, INC.**
**Geotechnical Engineers**

**APPENDIX H: NEW ORLEANS AND GULF COAST RAILWAY RIGHT OF ENTRY AGREEMENT**

# CONTRACTOR'S
# RIGHT OF ENTRY AGREEMENT

**THIS AGREEMENT** is made and entered into as of the _____ day of _____, 200_, by and between **NEW ORLEANS & GULF COAST RAILWAY COMPANY**, a Delaware corporation (the "Railroad"); and _____, (the "Contractor").

RECITALS:

Contractor has been hired by _____ (hereinafter "Lessee") to perform work relating to _____ (the "work"), partially located on property of Railroad in the vicinity of Railroad Mile Post _____, near _____, Louisiana.

Contractor has requested Railroad to permit it to perform the work on Railroad property, and Railroad is agreeable thereto, subject to the following terms and conditions.

**AGREEMENT:**

**NOW, THEREFORE**, it is mutually agreed by and between the Railroad and Contractor, as follows:

**ARTICLE 1 - LICENSE FEE**

Licensee shall pay, and Railroad shall accept, upon the execution and return of this instrument, the nonrefundable sum of **ONE THOUSAND DOLLARS ($1,000.00)** to cover Railroad's cost to prepare and administer this Agreement.

**ARTICLE 2 - DEFINITION OF CONTRACTOR**

For purposes of this agreement, all references in this agreement to the Contractor shall include the Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

**ARTICLE 3 - RIGHT GRANTED; PURPOSE**

The Railroad hereby grants to the Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing any work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

**ARTICLE 4 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS A AND A-1**

The terms and conditions contained in **Exhibit 1** and **Exhibit 2**, attached hereto, are hereby made a part of this agreement.

**ARTICLE 5 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE**

The Contractor shall bear any and all costs and expenses associated with any work performed by the Contractor, or any costs or expenses incurred by the Railroad relating to this agreement. All work performed by Contractor on Railroad's property shall be performed in a manner satisfactory to the

Railroad's Roadmaster or his authorized representative (hereinafter the "Railroad Representative") identified below:

Tracy Ulm
General Manager
504.391.3167 office

ARTICLE 6 - TERM; TERMINATION

A. The grant of right herein made to Contractor shall commence on the date of this agreement, and continue until Contractor has completed its work on Railroad's property. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad property.

B. This agreement may be terminated by either party on ten (10) days written notice to the other party.

ARTICLE 7 - CERTIFICATE OF INSURANCE

A. Before commencing any work, Contractor will provide Railroad with a Certificate of Insurance issued by its insurance carrier certifying that Contractor has and is maintaining in effect the insurance coverage set forth in Exhibit 2. The General Liability and Automobile Liability insurance policies shall also contain the following endorsement:

> New Orleans & Gulf Coast Railway Company is named as additional insured with respect to all liabilities arising out of Insured's, as Contractor, performance of any work on the property of the Railroad.

B. Contractor warrants that this agreement has been thoroughly reviewed by its insurance agent(s)/broker(s) and that said agent(s)/broker(s) has been instructed to procure insurance coverage and an endorsement as required herein.

C. All insurance correspondence shall be directed to:

Folder No:
New Orleans & Gulf Coast Railway Company
Real Estate Dept.
Attn: Donna Glover
6100 Southwest Blvd., Suite 320
Ft. Worth, TX 76109

ARTICLE 8 - CHOICE OF FORUM

This agreement shall be governed, construed and enforced in accordance with the laws of the state of Louisiana. Litigation arising out of or connected with this agreement may be instituted and maintained in the courts of the state of Idaho only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 9 - DISMISSAL OF CONTRACTOR/SUBCONTRACTOR EMPLOYEE

At the request of Railroad, Contractor shall remove from Railroad property any employee of Contractor or any subcontractor who fails to conform to the instructions of the Railroad Representative in connection with the work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad property.

ARTICLE 10 - SPECIAL PROVISIONS

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

B. Explosives or other highly flammable substances shall not be stored on Railroad property without the prior written approval of the Railroad Representative.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

NEW ORLEANS & GULF COAST
RAILWAY COMPANY

By: _____
Title: _____

_____

By: _____
Title: _____

# APPENDIX I: STANDARD RAILROAD SPECIFICATIONS

## For Non-flammable Substances

1. **Scope**
   Pipelines included under these specifications are those installed to carry steam, water or any nonflammable substance which from its nature or pressure might cause damage if escaping on or in the vicinity of railroad property.

2. **Installation**
   Pipelines under railroad track and right of way shall be encased in a larger pipe or conduit installed as indicated in Fig. 2.
   The casing pipe or conduit is the essential feature of the plan. Some of the other features as described in following paragraphs are optional in certain cases.

3. **Carrier Pipe**
   Carrier pipe inside the casing under the railroad track and right of way shall be of good construction approved by the chief engineer of the railroad.

4. **Casing Pipe**
   Casing pipe and joints may be of any conduit construction approved by the railroad's chief engineer and shall be capable of withstanding the load of railroad roadbed, track and traffic; also shall be constructed so as to prevent leakage of any matter from the casing or condult throughout its length under track and railroad right of way. The casing shall be installed so as to prevent the formation of a waterway under the railroad.
   Casing shall be installed with even bearing throughout its length and shall slope to one end.

   Wall thickness of the casing must be no less than that specified in the attached steel

casing pipe wall thickness chart.

The inside diameter of the casing shall be no less than 2 inches greater than largest outside diameter of carrier pipe, joints or couplings.

5. **Cathodic Protection**
   Where cathodic protection is used on the carrier pipe, a flush test box constructed specifically for this purpose will be provided with test wires attached to casing wall and carrier pipe, as shown in Fig. 2.

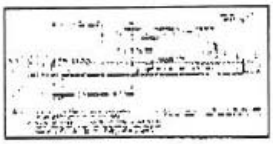


Fig. 2

6. **Seals**
   The ends of the casing shall be suitably sealed to outside of carrier pipe against the intrusion of foreign material which might prevent ready removal of the carrier pipe.
7. **Depth of Casing**
   The top of the casing pipe shall be below the frost line, and its closest point shall not be less than 4.5 feet below base of railroad rail. On other portions of the railroad right of way where casing is not directly beneath any track the depth from the surface of the ground and from bottom of ditches to top of casing, shall not be less than 3 feet. Where it is not possible to secure the above depths, special construction shall be used as approved by the railroad's chief engineer.
8. **Length of Casing**
   Casing shall extend at least 30 feet or 2(D)+20 feet, (where "D" equals depth of the bottom of the casing below railroad subgrade), whichever is greater, each side from (measured at right angles to) centerline of outside track. The casing is to extend beyond the limit of the railroad right of way as required to obtain the specified length. If additional tracks are constructed in the future, the casing shall be correspondingly extended at the utility's expense.
9. **Jacking Pits**
   Jacking pits shall be a minimum of 30 feet from the centerline of track.
10. **Shut-Off Valves**
    Where warranted by special local conditions and when mutually agreed to by the railroad company and the owner of the pipeline, accessible emergency shutoff valves shall be installed within effective distances at each side of the crossing.
11. **Location**
    Pipelines shall, where practicable, be located to cross tracks at approximately right angles thereto and said crossing shall not be closer than 50 feet to any portion of any railroad bridge, building, or other important structure.
    Pipelines and casing pipe shall be at least 16 feet (vertically) from aerial electric wired and shall be suitably insulated from underground conduits carrying electric wires on railroad right of way.

12. **Topography**
    Where practicable, pipelines shall be located where the ground surface slopes downward away from the railroad tracks. Also, when large capacity pipes "are

located where the ground surface ascends above the railroad roadbed, there must be sufficient adjacent opening under the tracks to carry off the material in event of rupture.

13. **Restoration of Right of Way**
Upon completion of the pipeline installation work all rubbish, excess materials, temporary structures and equipment are to be removed and the railroad's right of way cleaned and restored to the satisfaction of the railroad's chief engineer or his authorized representative. Disturbed areas shall be seeded or otherwise protected to control erosion as specified by the chief engineer of the railroad.

14. **Approval of Plans**
Plans for a proposed pipeline shall be submitted to and meet the approval of the chief engineer of the railroad or his authorized representative before work is begun and all work on railroad right of way, including the supporting of the track or roadbed, shall be subject to his inspection and direction. All costs incurred shall be borne by the utility.

## Steel Casing Pipe Wall Thickness Chart

| MINIMUM THICKNESS | DIAMETER OF CASING PIPE |
|---|---|
| 1/4" (0.2500") | 12" or less |
| 5/16" (0.3125") | over 12"-18" |
| 3/8" (0.3750") | over 18"-22" |
| 7/16" (0.4375) | over 22"-28" |
| 1/2" (0.5000") | over 28"-34" |
| 9/16" (0.5625) | over 34"-42" |
| 5/8" (0.6250") | over 42"-48" |

This chart is only for smooth steel casing pipes with minimum yield strength of 35,000 psi.

Casing pipes larger than 48" diameter or with any portion deeper than 20' shall be submitted to chief engineer of the railroad for approval.

## Diagrams of Common and Engineering Standards

- Fixed Object Identity
- Mile Marker
- Culvert Marker
- Bridge Number Sign
- General Shoring Requirements (1MB)
- Interim Guidelines for Horizontal Directional Drilling

**APPENDIX J: LADOTD STANDARD SPECIFICATIONS SECTION 728 – JACKED OR BORED PIPE**

# Section 728
# Jacked or Bored Pipe

**728.01 DESCRIPTION.** This work consists of furnishing and installing pipe in embankments at the locations shown on the plans by jacking or boring in accordance with these specifications.

**728.02 MATERIALS.** Pipe and joint materials shall comply with Subsection 701.02. Corrugated metal pipe to be jacked or bored shall have corrugated bands a minimum of 24 inches (600 mm) wide with four lines of approved gasket material. These bands shall be secured by a minimum of four galvanized steel rods and lugs in accordance with the plans.

**728.03 CONSTRUCTION REQUIREMENTS.** In general, pipes 30 inches (750 mm) diameter and greater shall be jacked, and pipes less than 30 inches (750 mm) diameter shall be bored.

The work shall begin at the outfall end of pipe when possible. When the grade at the jacking or boring end is below ground surface, suitable pits or trenches shall be excavated for conducting operations and placing joints of pipe. Adequate sheeting and bracing shall be provided to prevent earth caving.

For pipe with bell joints, if the outside diameter of pipe bell exceeds the outside diameter of pipe barrel by more than 1 inch (25 mm), pipe shall be either cased or pressure grouted its full length. The casing shall be an approved type and size, and shall be furnished and installed by the contractor in accordance with these specifications. Pressure grouting shall be performed with approved materials placed by approved methods.

The method used shall be such as not to weaken or damage the embankment. The contractor shall furnish the engineer for approval a plan showing the proposed procedure, including backstop or jacking frame arrangement, pipe guides, position of jacks and jacking head. Approval of this plan shall not relieve the contractor from responsibility to obtain the desired result.

**(a) Jacking:** Heavy duty jacks suitable for forcing pipe through the embankment shall be provided. Even pressure shall be applied to all jacks and shall be transmitted to the pipe end through a jacking head. The jacking head shall be designed so that pressure is uniformly applied around the ring of the pipe. Backstop or jacking frame shall be adequate to resist pressure of the

jacks under load. Pipe shall be set on guides properly fastened together to support the pipe in the proper direction at correct grade. Suitable cushioning material, such as plywood, shall be provided between sections of concrete pipe.

Material shall be excavated ahead of the pipe and shall be removed through the pipe. Excavation shall not extend more than 24 inches (600 mm) beyond the forward end of pipe. When the character of embankment material dictates, the distance shall be reduced to prevent the embankment from being damaged. Excavated material shall be disposed of in accordance with Subsection 202.02.

Excavation on the underside of pipe, for at least 1/3 the circumference of pipe, shall conform to the contour and grade of the pipe. A clearance of not more than 2 inches (50 mm) may be provided for the upper half of pipe, tapered to zero at the point where excavation conforms to contour of pipe.

A steel cutting edge may be used around the forward end of pipe, constructed so that it will transmit pressures uniformly around the ring of the pipe.

Jacking shall continue without interruption, to prevent pipe from becoming firmly set in the embankment.

Pipe shall not vary horizontally or vertically by more than 1 inch in 10 feet (25 mm in 3 m) from established line and grade. Any variation shall be regular, and no abrupt changes in direction will be permitted. Any pipe damaged or misaligned in jacking operations shall be removed and replaced by the contractor at no direct pay.

**(b) Boring:** Boring shall be done mechanically, using a pilot hole approximately 2 inches (50 mm) in diameter. The pilot hole shall extend through the embankment and shall be checked for line and grade before boring begins. Variations from line and grade shall not exceed those specified for jacking. The pilot hole shall serve as centerline of the larger diameter hole to be bored.

The use of water and other fluids with boring operations will be permitted only to lubricate cuttings. Jetting will not be permitted.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10 percent high-grade, bentonite may be used to consolidate cuttings of the bit, seal walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of pipe.

Overcutting in excess of 1 inch (25 mm) shall be remedied by pressure grouting the entire length of the installation.

Pipe shall be joined as specified in Section 701.

**728.04 MEASUREMENT.** Quantities of jacked or bored pipe for payment will be the design lengths as specified on the plans and adjustments thereto. Design quantities will be adjusted if the engineer makes changes to adjust to field conditions, if plan errors are proven, or if design changes are made. Required excavation, sheeting, bracing, falsework, casing, joint materials and grouting will not be measured for payment.

**728.05 PAYMENT.** Payment for jacked or bored pipe will be made at the contract unit price per linear foot (lin m) under:

| Item No. | Pay Item | Pay Unit |
|---|---|---|
| 728-01 | Jacked or Bored Pipe (Size, Type, Class or Thickness) | Linear Foot (Lin m) |